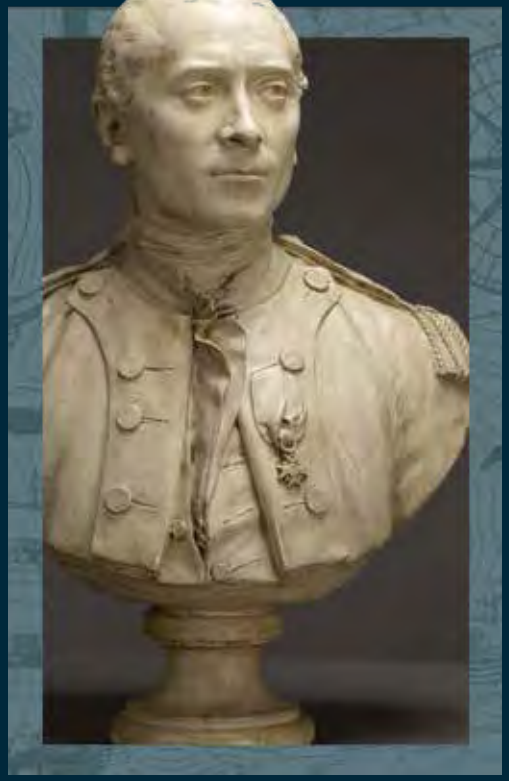
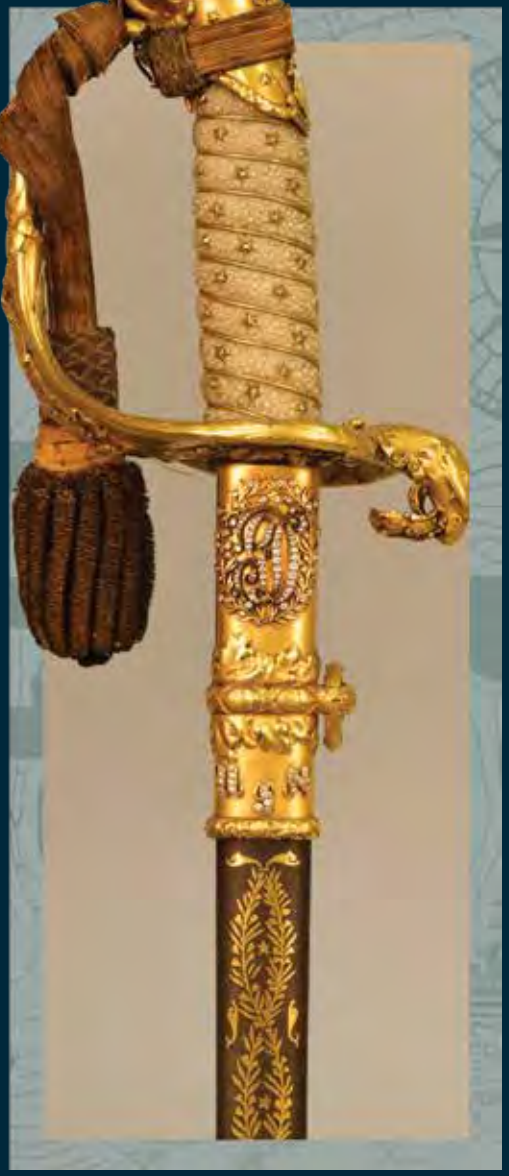
America's Navy *at* 250

The Historic Collections of Naval History and Heritage Command

Foreword by Acting Secretary of the Navy Hung Cao





America's Navy *at* 250

The Historic Collections of Naval History and Heritage Command

With a Foreword by
Acting Secretary of the Navy Hung Cao

Introduction by
Rear Admiral Samuel J. Cox, U.S. Navy (Retired)

Edited by Jeffrey L. Bowdoin

Naval History and Heritage Command
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Foreword

"Don't give up the ship." These immortal words were Commodore Oliver Hazard Perry's battle cry amidst the decisive Battle of Lake Erie during the War of 1812. The original flag that he flew on his flagship is now proudly displayed at the U.S. Naval Academy Museum, where it serves as the heart of the Navy's warrior ethos. To sailors, it means never quit. Never quit on your country, on your team, on your family, or on yourself.

Commodore Perry's battle flag is but one of many hallowed artifacts that portray the rich history of the U.S. Navy and its 250 years of answering our nation's call. In the fall of 1775 when the idea of a national Navy was proposed, a debate ensued, with some dismissing the notion as the "maddest idea in the world." How dare the colonies challenge the largest, most powerful, most battle-experienced, and victorious navy in the world, the Royal Navy of the Kingdom of Great Britain?

After the American Revolution, the construction of the first six frigates was authorized. Among them was USS *Constitution,* now the oldest commissioned warship afloat in the world, and a historic artifact, currently homeported in Boston, Massachusetts. Naval History and Heritage Command (NHHC) serves as the faithful custodian of *Constitution* along with other historic artifacts like the ex-USS *Nautilus* (SSN 571), the world's first nuclear-powered submarine. This stewardship extends even to the silent depths, where every U.S. Navy vessel lost at sea, whether in battle or otherwise, remains the sovereign property of the United States. These ships serve in perpetuity as historic artifacts and hallowed gravesites.

To commemorate the Navy's 250th anniversary, the Navy and NHHC have specially curated this volume of artifacts from their collection. Within these pages, you will discover historic ships, aircraft, and weapons, as well as examples of technological advancements, and the personal effects of heroes, including Medals of Honor. You will see history brought to life through art that depicts historic events from the era before photography, and more.

Some of these artifacts will elicit powerful emotional reactions, depicting stories of valor and sacrifice. Others chronicle amazing feats, such as the single-engine observation aircraft flown by a Republic of Vietnam Air Force pilot, who in a desperate act of courage, saved his wife and children with a successful landing on the carrier USS *Midway* (CVA 41) during the fall of Saigon. As a refugee myself, this story holds personal significance to me. Fifty years after I left Vietnam, I served in uniform in the U.S. Navy for more than three decades and now sit as the

Acting Secretary of the Navy–a position held by prominent figures that include Theodore Roosevelt and Franklin Delano Roosevelt.

Some artifacts are whimsical. Souvenirs collected by sailors during exotic port calls depict the Navy's global reach. Some are poignant. The commissioning pennant for the submarine USS *Thresher* (SSN 593), lost at sea during trials, and the clock from the Navy Command Center at the Pentagon, frozen at the time of the terrorist attack on 9/11, tell the story of our losses.

Other artifacts reflect the triumph of victory. The collection includes the table on which the instrument of surrender ending World War II was signed, as well as the battle flag of USS *Barb* (SS 220), one of the most successful submarines in history, commanded by Medal of Honor recipient Rear Admiral Eugene Fluckey. The collection even includes the desks of the Secretary of the Navy and the Vice President of the United States, created under the auspices of NHHC from wood and copper salvaged from the undefeated USS *Constitution.* The desk of the Secretary of the Navy also includes steel and other metal from the victorious battleships of World War II.

These artifacts are stark reminders of the indominable spirit of the American sailor. Almost every ship that was sunk in Pearl Harbor, except for USS *Arizona* and USS *Utah,* were salvaged, repaired, and refitted for service. Likewise, the steel from the World Trade Center that was used in USS *New York* and USS *Somerset* shows that while our enemies may knock us down, we will not stay down. This is the warrior ethos and the American spirit.

I hope that you will enjoy this commemoration to the men and women of the United States Navy, past, present and future. We are proud to wear the Navy blue and gold, as we stand on the shoulders of the giants that went before us and answer our nation's call in any ocean, at any time.

The Honorable Hung Cao
Acting Secretary of the Navy

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Introduction

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From humble beginnings, like America itself, the U.S. Navy has grown and developed into the preeminent naval force on the globe. The story of the United States and U.S. Navy over 250 years are inexorably linked. This compendium honors and commemorates both the birthday of the United States and of the U.S. Navy from the perspective of material culture. This unique view of U.S. history is carried out through the lens of artifacts in the collection of NHHC. With more than 400,000 artifacts to choose from, this book is a very small representative sample of the command's much larger effort to preserve our past and inspire our current and future sailors and warfighters. Each of these artifacts reveal how the Navy too has expanded and evolved while maintaining its essential place in ensuring national security. Today the Navy's active-duty sailors and reservists stand ready to confront threats anywhere around the globe, providing the nation's leaders with unparalleled capabilities in both peacetime and times of war. This book showcases a rich legacy that American sailors may draw upon for insight and inspiration as they upload its honorable tradition of defending the nation.

The curatorial staff at NHHC have carefully selected these historic artifacts, some of which are the most famous and iconic in the collection, such as Commodore Oliver Hazard Perry's original "Don't Give Up the Ship" battle flag or the Douglass SBD Dauntless dive bomber, the only surviving participant in the decisive Battle of Midway in 1942. Other choices may be surprising, such as the Confederate submarine H.L. *Hunley* or submerged cultural sites such as USS *Indianapolis* (CA 35) and USS *Juneau* (CL 52). Each of these artifacts serve as sobering reminders that victory at sea can have a very high cost.

In choosing to highlight the Nobel Prize medal for Albert A. Michelson, the first to measure the speed of light, or Rear Admiral Grace Hopper's length of wire, demonstrating how far light travels in a nanosecond, curators celebrate innovation in the Navy. Other artifacts such as the Medal of Honor for Chief Water Tender Peter Tomich—honored for his actions on USS *Utah* (AG 16) during the attack on Pearl Harbor—emphasize the heroism and valor that can win the day.

With more than 20,000 works of art, this volume would not be complete without a visual record spanning 250 years. Artists recreate historical events before the advent of photography or actions, such as night battles, that were not conducive to photography. They can often capture the emotion of an event that a photograph cannot.

Some artifacts are simply quirky, such as the milk carton from the U.S. Naval Academy dairy farm, established in 1911 due to typhoid outbreaks. Who knew the academy had its own dairy farm? It was also the home of a number of goats that served as the academy mascot, Bill the Goat.

The staff of the NHHC Collection Management Division as well as curators in the museums and the conservators at the collection management facility are extraordinary professionals who take enormous pride in caring for the priceless legacy of the U.S. Navy. They are delighted to make this book available to the fleet and the public.

Rear Admiral Samuel J. Cox, USN (Ret.)
Director, Naval History and Heritage Command

Editor's Note

The artifacts, artwork, and submerged cultural sites in this book were selected by the various curators and subject matter experts within NHHC. The collecting units within NHHC, those branches, museums, and Detachment Boston that collect artifacts and artwork, each administer a portion of the overall, unified Navy collection.

In formulating the basis of the selection criteria, I quickly shied away from asking my colleagues for a list of the "best" artifacts they manage. How would I define "best"? With such a long and varied history, as well as a large collection to choose from, a book of the "best" artifacts and artwork was not an achievable goal. Contributors from throughout the command were instead asked what stories they wanted to tell and were given wide latitude in what they submitted. Not all collecting units are equally represented throughout these pages, which is not reflective of the quality of their work or the artifacts and artwork they manage. Simply put, specific collecting units manage larger portions of NHHC's overall collection than others. While specific artifacts may appear ordinary or routine and others may possess historic significance on national and global levels, they all tell a story and have a place in the Navy's collection.

The effort to produce this book is the result of an unprecedented level of collaboration and cooperation within the Naval History and Heritage Command. It is the first time a book effort encompassed all facets of the command. Staff from every division within NHHC—Collection Management; Histories, Archives, and Library; Navy Museum; National Museum Program; Communication and Outreach; and Resource Management—all contributed to the success of this book.

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1773
1774

1775–1812

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1818

The story of the United States Navy from its founding in 1775 to the War of 1812 is not only told through official documents and battle reports. It is etched into copper bolts, carved into ditty boxes, preserved in fragments of shipwrecks, and reflected in the personal belongings that its sailors carried to sea.

When war broke out with Great Britain in 1775, the Continental Congress faced the immense challenge of confronting the world's most powerful navy without a single warship or the funds to build one. Undeterred, on 13 October 1775, they authorized the creation of the Continental Navy. This bold move was championed by leaders like John Adams and carried out by naval pioneers such as John Paul Jones and Esek Hopkins, and laid the foundation for a national naval force.

Ironically, the end of the American Revolution and the birth of a new nation brought about the Continental Navy's demise. The Congress of the Confederation, the successor of the Continental Congress, dismantled the Navy due to financial constraints and deep suspicions of a permanent military force. Mounting threats from Barbary pirates, French privateers, and other foreign powers forced the U.S. Congress to enact the Naval Act of 1794. This act—marking the rebirth of the U.S. Navy—authorized the construction of six frigates and led to the establishment of the Department of the Navy in 1797. Through a series of conflicts between 1797 and 1812, including the Quasi-War with France (1798–1800) and the First Barbary War (1801–1805), the U.S. Navy evolved into an organized and professional naval force, capable of defending U.S. economic interests overseas.

The Navy of this era and its sailors played a critical role in defending American interests and asserting the young nation's maritime power on the global stage. The artifacts preserved from this formative period—shaped by hand, forged in fire, or recovered from the depths—stand as enduring reminders of their service, sacrifice, and determination to challenge the world's greatest naval power.

Alfred *at Anchor in Philadelphia*
by William Nowland Van Powell

Oil on Board, 1974
U.S. Navy Art Collection

By an act approved by the Continental Congress at the end of October 1775, the Naval Committee purchased the ship *Black Prince* from John Barry on 4 November 1775 in Philadelphia, Pennsylvania. Renamed *Alfred,* it was the first Continental Navy ship to have a Grand Union flag, the first official flag of the United States. The flag was raised on board by John Paul Jones on 3 December 1774 at the ship's commissioning.

Landing on New Providence Island
by V. Zveg

Oil on Canvas, 1974
U.S. Navy Art Collection

At the start of the American Revolution, a new fleet of ships left the docks of Philadelphia to head to the Caribbean in search of gunpowder for the Continental Army, who could not arm their guns without a steady supply. In March 1776, these ships landed U.S. Marines on the island of New Providence and captured the town of Nassau in the Bahamas for two weeks. The raid of two British forts allowed American forces to seize a large quantity of supplies including artillery and gunpowder for use in the colonies. This was the first amphibious assault by the U.S. Marines and Navy sailors—"a bold stroke, worthy of an older and better trained service."

Ship Timbers

Royal Savage

Underwater Archaeology Branch

The schooner *Royal Savage* was the flagship of Benedict Arnold's Lake Champlain squadron at the Battle of Valcour Island during the American Revolution. At the vanguard of the American naval forces at the southern tip of Valcour on 11 October 1776, *Royal Savage* grounded on a rock and was abandoned as the British closed in. After being burned by the enemy that evening, the schooner sank off the island, and the wreck was left undisturbed for more than 150 years until it was raised and relocated in 1934.

It never made it into a museum, however, and was instead disassembled and passed through several hands before returning to the U.S. Navy in 2015. Since then, NHHC archaeologists have documented and studied the hull remains and the timbers have been scanned and digitally reassembled in their original configuration with modeling software. Based on this research, a scale wooden model of how the ship looked as a wreck on the lakebed was built, as well as a reconstruction of the original schooner as it served during war. *Royal Savage* is the earliest surviving example of a U.S. naval schooner.

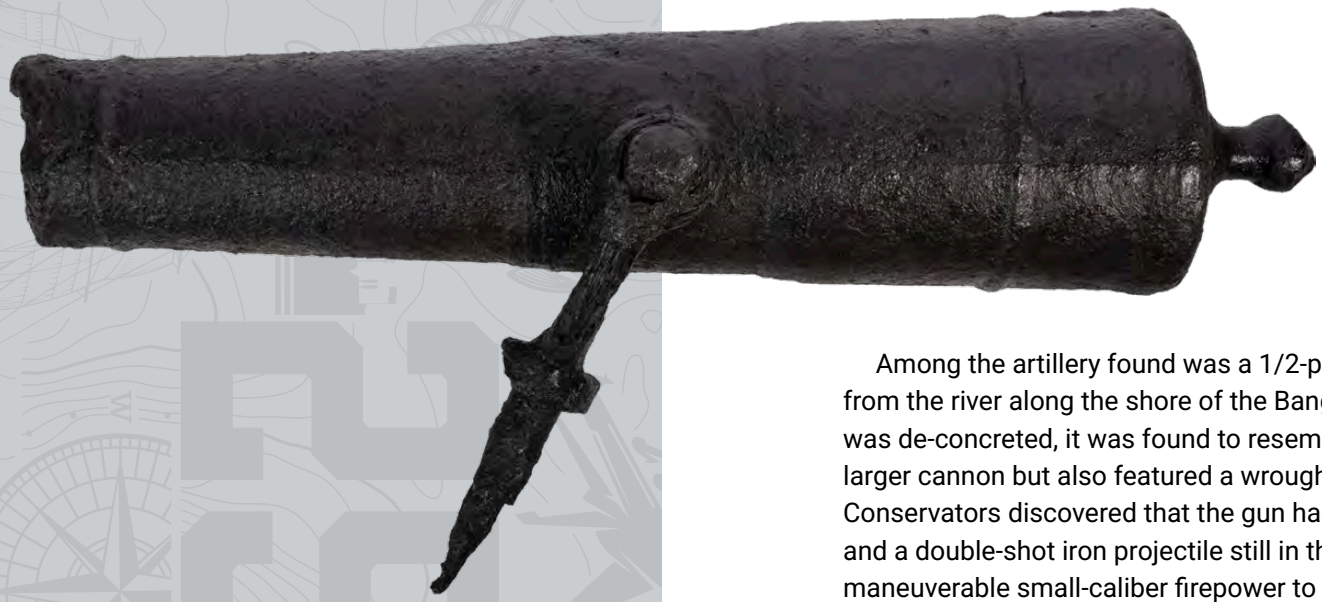
V. Zeg, *Battle of Valcour Island,* c. 1970–79, oil on canvas, U.S. Navy Art Collection. (NHHC)

Swivel Gun

Penobscot Expedition

Underwater Archaeology Branch

In July 1779, American naval and land forces entered Penobscot Bay and laid siege to a British fort at present-day Castine, Maine, in an effort to repel a British invasion. On the verge of victory, the Americans were forced to beat a disorganized retreat up the Penobscot River to avoid a British relief squadron, resulting in the scuttling and abandonment of most of the American vessels. Starting in the late 1990s, NHHC, in partnership with University of Maine's Darling Marine Center and the Maine Historic Preservation Commission, investigated shipwrecks from the Penobscot Expedition.



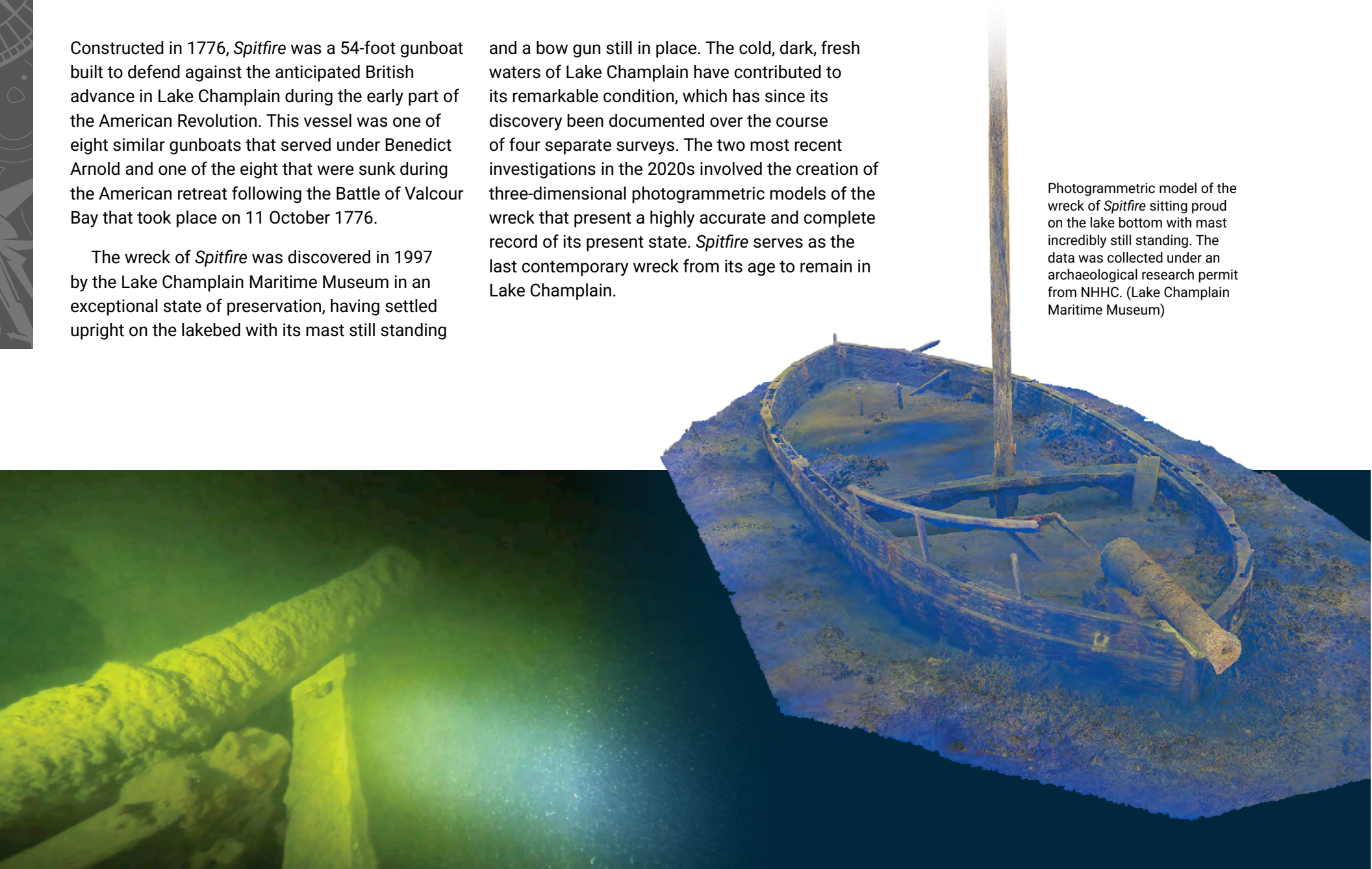
Among the artillery found was a 1/2-pounder swivel gun, excavated from the river along the shore of the Bangor waterfront. After the gun was de-concreted, it was found to resemble a scaled-down version of a larger cannon but also featured a wrought-iron yoke and swivel assembly. Conservators discovered that the gun had remnants of a powder charge and a double-shot iron projectile still in the bore. Swivel guns added maneuverable small-caliber firepower to the larger cannon positioned within the vessel. Nicknamed "murderers," swivel guns were mounted on the gunwales of ships as anti-personnel weapons and could be operated by a smaller crew than was required of cannon. Aside from round shot, miscellaneous materials such as iron fasteners and fragments, known as langrage, could be fired from the bore of swivel guns, cutting down rigging and maiming crewmembers on enemy vessels.

Spitfire

Underwater Archaeology Branch

Constructed in 1776, *Spitfire* was a 54-foot gunboat built to defend against the anticipated British advance in Lake Champlain during the early part of the American Revolution. This vessel was one of eight similar gunboats that served under Benedict Arnold and one of the eight that were sunk during the American retreat following the Battle of Valcour Bay that took place on 11 October 1776.

The wreck of *Spitfire* was discovered in 1997 by the Lake Champlain Maritime Museum in an exceptional state of preservation, having settled upright on the lakebed with its mast still standing and a bow gun still in place. The cold, dark, fresh waters of Lake Champlain have contributed to its remarkable condition, which has since its discovery been documented over the course of four separate surveys. The two most recent investigations in the 2020s involved the creation of three-dimensional photogrammetric models of the wreck that present a highly accurate and complete record of its present state. *Spitfire* serves as the last contemporary wreck from its age to remain in Lake Champlain.



Photogrammetric model of the wreck of *Spitfire* sitting proud on the lake bottom with mast incredibly still standing. The data was collected under an archaeological research permit from NHHC. (Lake Champlain Maritime Museum)

Spyglass

Central Artifact Collection
Curator Branch

This spyglass was owned by Commodore Samuel Tucker. Born in Massachusetts on 1 November 1747, Tucker's naval career spanned the American Revolution and War of 1812. In 1778, while in command of the frigate *Boston,* he conveyed John Adams, the newly appointment minister to France, and his son, John Quincy Adams, to France. When the war ended, he sailed cargo ships from America to Germany until retiring in 1792. During the War of 1812 he returned to active service, commanding a schooner off the Maine coast to protect against British privateers. Tucker would have used this spyglass, as well as other mariner equipment during his 30-plus years of seafaring. Commodore Tucker died at the age of 86 in 1833.

This artwork was created for display on USS *Boston* (CAG 1).
Rod Claudius, *Continental Gondola* Boston (1776), 1962, oil on canvas, U.S. Navy Art Collection.

John Paul Jones
by Jean-Antoine Houdon

Plaster, 1780
U.S. Navy Art Collection

This plaster bust of John Paul Jones is a cast of an original white marble sculpture currently at the United States Naval Academy's crypt, where Jones's body was interred in 1906. The plaster bust, capturing the essence of John Paul Jones as he was while he served in the U.S. Navy in the eighteenth century, was made in Jean-Antoine Houdon's Paris workshop the same year the original was carved in marble. Houdon cast seven other busts at the same time and gave one each to George Washington, Thomas Jefferson, Benjamin Franklin, Robert Morris, Marquis de Lafayette, Comte d'Estaing, Baron Grimm, and the state of North Carolina. The recipient of this exact bust is unknown.

Presentation Sword of John Paul Jones

U.S. Naval Academy Museum

Commodore John Paul Jones was the first American decorated by a foreign government. Already celebrated in France for his daring raid on Whitehaven, England, in April 1778, the French government provided Jones with an aged East Indiaman vessel that he refitted and renamed *Bonhomme Richard.* On 14 August 1779, he departed France for his second foray into English waters, in command of a small Franco-American squadron. Late on the afternoon of 23 September, he encountered a large British merchant convoy escorted by a pair of Royal Navy warships. As the merchantmen scattered, Jones engaged the larger of the British ships, the 50-gun HMS *Serapis,* in an epic battle that lasted well into the night.

Despite suffering massive casualties and with five feet of water in the hold, the pugnacious Scottish American replied to the British captain's call to surrender with his immortal oath, "I have not yet begun to fight." A grenade lobbed by one of Jones's men exploded in *Serapis*'s powder magazine, forcing the British ship to strike. As *Bonhomme Richard* sank, Jones sailed his captured prize into a neutral Dutch harbor. He returned to Paris on 27 December, where he received a hero's welcome. Six months later, in a ceremony at Versailles Palace, France's King Louis XVI gave him this magnificent sword with an elaborate gold hilt. One of only a few items of his that has survived, it was gifted to the U.S. Naval Academy in 2011 by descendants of Richard Dale, Jones's first lieutenant aboard *Bonhomme Richard.*

USS *Constitution*

NHHC Detachment Boston

USS *Constitution,* the oldest commissioned warship afloat in the world, was launched 21 October 1797, in Boston. It is the sole survivor of the original six frigates of the United States Navy. *Constitution* successfully captured 33 vessels between 1798 and 1853, including three War of 1812 victories against the British Royal Navy. *Constitution*'s first War of 1812 success occurred on 19 August 1812 against HMS *Guerriere,* the first frigate-to-frigate U.S. Navy victory over the Royal Navy. When one of its sailors noticed *Guerriere*'s shot fall harmlessly off the thick oak hull, he purportedly exclaimed, "Huzza! Her sides are made of iron!" and thus began the nickname "Old Ironsides."

During the 1820s and 1830s, *Constitution* protected American commerce in the Mediterranean. In 1844, the aging warship began a two-year, around-the-world cruise, visiting over 25 foreign ports. At the outbreak of the American Civil War, *Constitution* was a U.S. Naval Academy training ship. Both the warship and the academy were moved to Newport, Rhode Island, far from the threat of capture by Confederate forces. To mark its 200th birthday, *Constitution* sailed under its own power on 21 July 1997 for the first time in 116 years. "Old Ironsides" sailed again on 19 August 2012 to commemorate the 200th anniversary of the War of 1812 and 200 years of peace between the United States and Great Britain and the United States and Canada. Homeported and preserved in Boston since 1897, *Constitution*'s history is the United States Navy's heritage.

USS *Constitution* on 19 August 2012, the 200th anniversary of the battle between *Constitution* and HMS *Guerriere*.

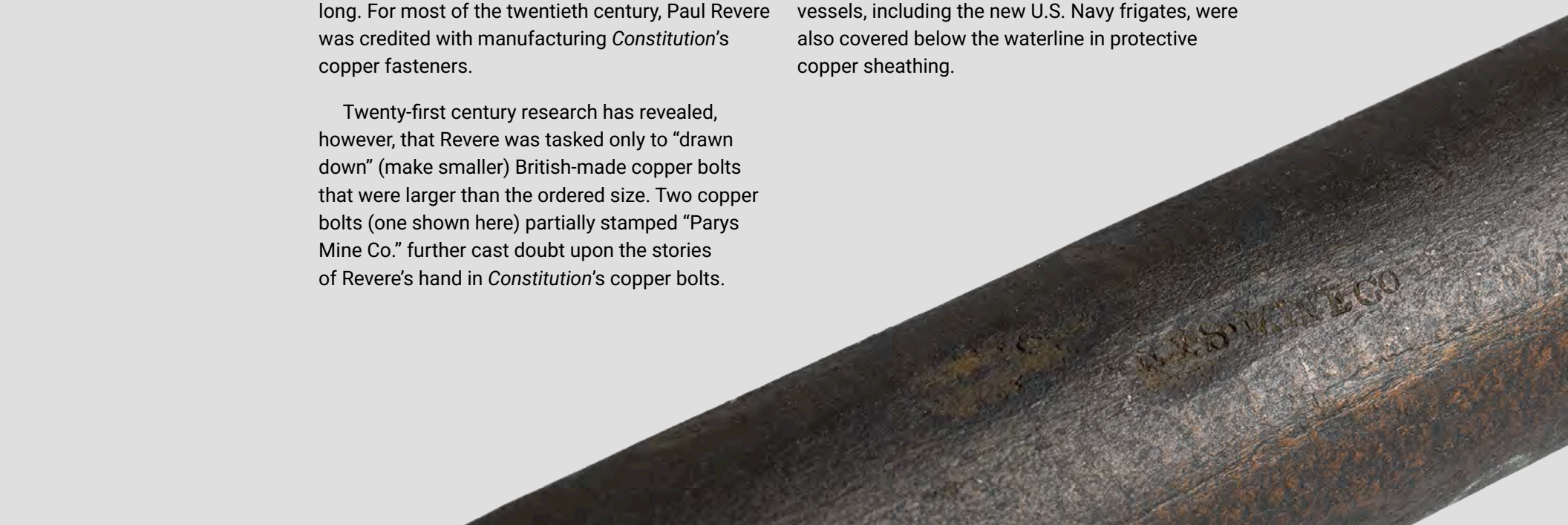
Copper Keel Bolt

NHHC Detachment Boston

This copper bolt was removed from USS *Constitution*'s original 1795 keel during the ship's Charlestown Navy Yard 1992–96 dry docking and restoration. The bolt's composition is nearly 100 percent pure copper and today measures a little over 4 1/2 feet in length. When *Constitution* was built, the bolts driven into the massive white oak keel structure could have been 10 or more feet long. For most of the twentieth century, Paul Revere was credited with manufacturing *Constitution*'s copper fasteners.

Twenty-first century research has revealed, however, that Revere was tasked only to "drawn down" (make smaller) British-made copper bolts that were larger than the ordered size. Two copper bolts (one shown here) partially stamped "Parys Mine Co." further cast doubt upon the stories of Revere's hand in *Constitution*'s copper bolts.

The Parys Mine Company was one of the largest mines in the late eighteenth century and these fasteners confirm that some of *Constitution*'s bolts were made in Greenfield Valley, Holywell, North Wales, an area rich in copper ore. Copper bolts were used in late eighteenth- and nineteenth-century wooden ship construction because the metal did not corrode in salt water. Many wooden vessels, including the new U.S. Navy frigates, were also covered below the waterline in protective copper sheathing.



Adm. David Farragut, c. 1855–65. (Library of Congress [LOC])

E. Tufnell, *USS* Essex, 1799, watercolor and gouache on board, U.S. Navy Art Collection.

David G. Farragut's Oath of Office

U.S. Naval Academy Museum

During the age of sail, most American boys intent on becoming a naval officer sought a warrant as a midshipman while still teenagers. After serving at sea for several years, they became eligible to take an examination testing their seamanship and navigation skills. Those who passed were commissioned junior lieutenants. After his mother's death in 1808, James G. Farragut (1801–79) was raised in the home of naval officer David Porter. He was appointed a midshipman at nine years of age and first went to sea with Captain Porter aboard the frigate *Essex* in 1810. Two years later, he changed his name from James to David in Porter's honor.

His first true test came in the War of 1812 when, at just 12 years old, he successfully brought a British prize taken in the Pacific by *Essex* to the neutral port of Valparaiso, Chile. Farragut passed the exam for lieutenant on his second attempt in 1825. He was promoted to commander in 1841, captain in 1855, and rear admiral in 1862. His most famous achievements took place during the American Civil War, when he captured New Orleans in April 1864, and on 5 August when he won the Battle of Mobile Bay, Alabama, closing the last Confederate port on the Gulf of Mexico. In recognition, President Lincoln created the rank of vice admiral for him on 31 December 1864, and on 25 July 1866, he became the Navy's first admiral by congressional act.

I, Glasgow Farragut
appointed Midshipman in the Navy
of the United States do solemnly swear to bear true allegiance to the United States of America, and to serve them honestly and faithfully against all their enemies or opposers whomsoever; and to observe and obey the orders of the President of the United States of America, and the orders of the officers appointed over me, and in all things to conform myself to the rules and regulations which now are or hereafter may be directed, and to the articles of war which may be enacted by Congress, for the better government of the navy of the United States, and that I will support the constitution of the United States.

SWORN BEFORE ME,

Chester Decr 19th 1810 G^o Farragut

Isaac Eyre Justice of the
Peace in the County of Delaware
State of Pensylvania

Ditty Box

USS *Wasp*

Hampton Roads Naval Museum

Sailors often owned ditty boxes that stored their most prized possessions aboard ship. Items might include letters, pocket watches, small tools, and sewing equipment. Sailors frequently decorated and personalized these boxes. This example is adorned with brass tacks and plates marked "USS Wasp," "R," "M," and "1809." The sloop-of-war USS *Wasp* defeated and captured the Royal Navy brig HMS *Frolic* during the War of 1812 but was captured shortly after.

Samuel Seymour after Thomas Birth, *Capture of the British Sloop of War* Frolic *of 24 Guns by the U.S. Sloop of War* Wasp *of 18 Guns,* 1813, etching print, U.S. Navy Art Collection.

Underside of the carronade showing the mounting lug. A metal rod is threaded through the lug to the carriage, connecting the carronade to the carriage.

Carronade

Naval Schooner *Revenge*

Underwater Archaeology Branch

Before his famous victory at the Battle of Lake Erie during the War of 1812, Commodore Oliver Hazard Perry conducted coastal patrol operations along the Atlantic seaboard. In January 1811, U.S. naval schooner *Revenge,* under the command of then-Lieutenant Perry, encountered thick fog and heavy swells off of Rhode Island and struck a reef. In an unsuccessful attempt to free the sinking ship, Perry jettisoned the masts, anchor, and eight of the vessel's 14 guns before abandoning the hull. Two centuries later, the wreck was rediscovered by local divers, and NHHC has documented and studied the scattered wreck remains. This project included the recovery of a 6-pounder cannon and 12-pounder carronade.

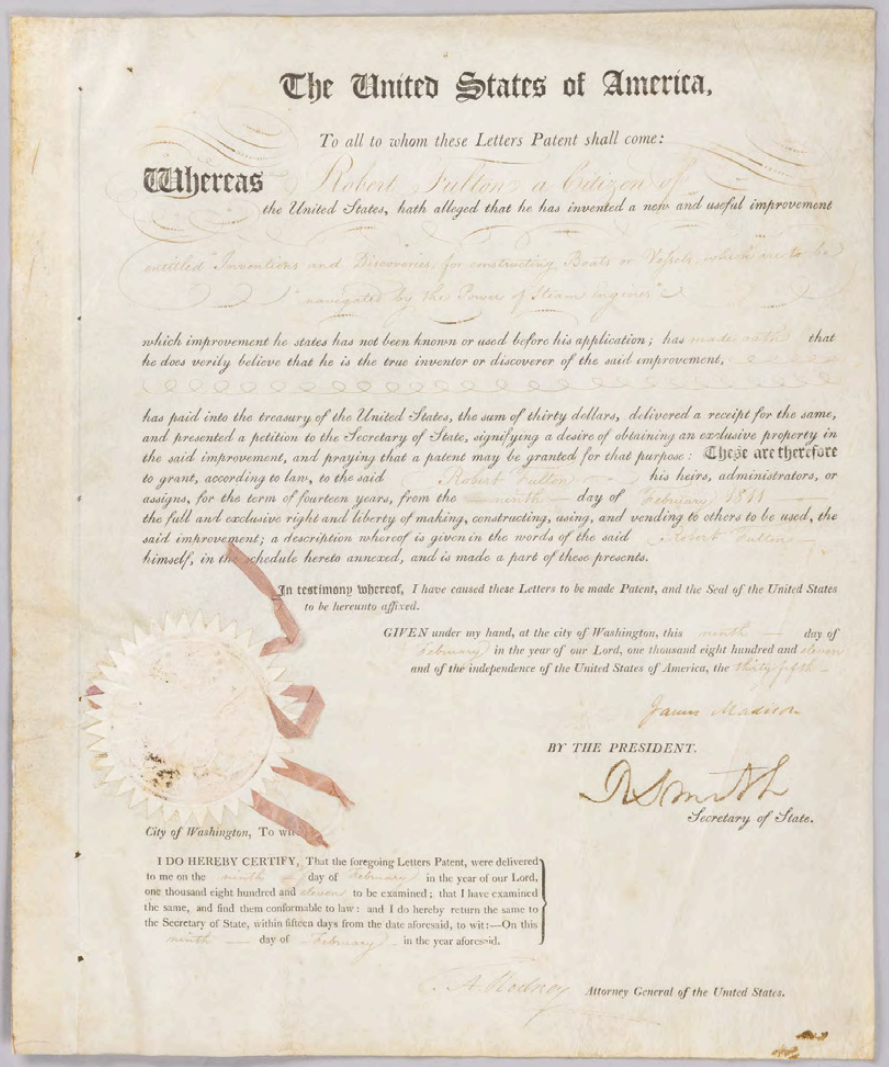
Although no foundry marks survived on the 6-pounder, a wealth of information was found during the conservation of the carronade including a British Crown with the date of 1798. The "P" next to the crown indicates that it was proved at Woolwich on the Board of Ordnance Proof range. The initials "WG" stand for Wiggin and Graham, one of three major iron founders in London. The gun's weight is inscribed as 6-2-14 (742 lb.). As existing naval records do not indicate where the guns for *Revenge* were sourced, these markings are significant, denoting that the Navy purchased at least the carronades from England during this time. Carronades were introduced in the late eighteenth century and were highly regarded as they could fire heavy shot from a small footprint and cause considerable damage, despite their reduced range.

Patent for the North River Steamer

U.S. Naval Academy Museum

American Robert Fulton (1765–1815) is widely credited with developing the world's first commercially successful steamboat, a major advance in marine technology. Working together with Robert Livingston, the former U.S. ambassador to England, he conceived the idea of a vessel with twin side paddlewheels powered by a steam engine that could maneuver against the wind and current. Initial trials of a 66-foot steamer conducted in 1803 on the River Seine in Paris encouraged the two men to construct a larger paddle-wheeler measuring 142 feet in length, 18 feet in the beam.

The maiden voyage of this groundbreaking vessel, later named *Clermont,* took place on the Hudson River in August 1807. Traveling from New York City to Albany and back, it proved a grand success. Two years later, Fulton sent this patent application to the U.S. Patent Office in Washington, DC. Fortunately, it was not present when a fire on 15 December 1836 destroyed the Patent Office building and the almost 10,000 patents stored there. Adoption of steam power for the U.S. Navy was a slow and painful process. Though the Navy experimented with steam power with USS *Demologos* in 1814, it was not until the late nineteenth century that the Navy began construction of modern steel ships with steam as their primary means of propulsion.



The United States of America.

To all to whom these Letters Patent shall come:

Whereas Robert Fulton, a Citizen of the United States, hath alleged that he has invented a new and useful improvement entitled "Inventions and Discoveries, for constructing Boats or Vessels which are to be navigated by the Power of Steam Engines"

which improvement he states has not been known or used before his application; has made oath that he does verily believe that he is the true inventor or discoverer of the said improvement,

has paid into the treasury of the United States, the sum of thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: These are therefore to grant, according to law, to the said Robert Fulton his heirs, administrators, or assigns, for the term of fourteen years, from the month day of February 1811 the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement; a description whereof is given in the words of the said Robert Fulton himself, in the schedule hereto annexed, and is made a part of these presents.

In testimony whereof, I have caused these Letters to be made Patent, and the Seal of the United States to be hereunto affixed.

GIVEN under my hand, at the city of Washington, this month day of February in the year of our Lord, one thousand eight hundred and eleven and of the independence of the United States of America, the thirty-fifth

James Madison

BY THE PRESIDENT.

R. Smith

Secretary of State.

City of Washington, To wit:

I DO HEREBY CERTIFY, That the foregoing Letters Patent, were delivered to me on the month day of February in the year of our Lord, one thousand eight hundred and eleven to be examined; that I have examined the same, and find them conformable to law: and I do hereby return the same to the Secretary of State, within fifteen days from the date aforesaid, to wit:—On this month day of February in the year aforesaid.

A. Bradley Attorney General of the United States.

Side paddlewheel steamer *Clermont,* Hudson River, 1909. (LOC)

1810
1811
1813
1814
1815
1816
1817
1818

War of *1812*

Was it to be peace or war? On 1 June 1812, President James Madison listed Great Britain's infringements upon the United States to include the harassment of American vessels, the impressment of Americans into the Royal Navy, westward expansion stymied by Native American violence (allegedly) suggested through British contact, and the closure of ports to U.S. vessels through British Orders in Council. The maritime indignities were popularized with the American slogan "free trade and sailors' rights." The Senate voted in favor, 17-13, and on 18 June 1812, the United States declared war on Great Britain.

In June 1812, the U.S. Navy had 16 ships consisting of heavily armed frigates with smaller sloops and brigs. The Royal Navy was the largest in the Western world. Seventy British warships, battle ready, patrolled from Newfoundland to the Caribbean disrupting American trade. But the Royal Navy was stretched thin in 1812, for Britain had been at war with France since 1793.

The U.S. Navy had early successes. In August 1812, USS *Essex* beat HMS *Alert* and USS *Constitution* battled HMS *Guerriere* into a dismasted wreck. In October, the sloop USS *Wasp* defeated HMS *Frolic,* and USS *United States* brought home HMS *Macedonian.* On 10 September 1813, Commodore Oliver Hazard Perry swept the British fleet from Lake Erie declaring, "We have met the enemy and they are ours."

U.S. victories boosted morale but hardly affected the war. Britain ruled the conflict through blockades that ruined American shipping and the economy. The Treaty of Ghent ended the war and was signed on 24 December 1814, though combat actions continued as late as June 1815. Through the War of 1812, the United States became a recognized sovereign nation, capable of defending itself. "[T]he war has given the Americans what they . . . lacked, a national character," wrote French minister Louis Sérurier at war's end.

***USS* Constitution *vs. HMS* Guerriere**
by Charles R. Patterson

Oil on Canvas, c. 1928
Naval War College Museum

Charles R. Patterson was an English artist born on 18 July 1878, in Stockdalewath, United Kingdom. In 1920, he became a United States citizen and spent time on several U.S. Navy warships to witness battle maneuvers. His works led to a revival movement in the romance and beauty of the age of sail in art. Before his death in 1958, Patterson painted a series of lunette murals in the United States Naval Academy's Memorial Hall. This painting is one of four commissioned by Edward J. Berwind, the last surviving member of the Naval Academy class of 1869.

USS *Constitution* engaged HMS *Guerriere* on 19 August 1812 in the Atlantic Ocean. It was during this engagement that a sailor stated that *Constitution*'s sides were "made of iron" after witnessing cannonballs from *Guerriere* deflect off the hull, causing little to no damage. As the two ships continued to fire on each other, *Guerriere* eventually lost multiple masts and was forced to surrender. The ship was too badly damaged to be salvaged and was set on fire the following day. It was through this engagement that *Constitution* became known as "Old Ironsides."

Constitution *versus* Java
by Charles Robert Patterson

Oil on Canvas, c. 1934
U.S. Navy Art Collection

On the morning of 29 December 1812, USS *Constitution* was sailing in the Atlantic just off the coast of Brazil when sails were sighted on the horizon. *Constitution*'s new captain, William Bainbridge, altered course to investigate; the ship proved to be HMS *Java.* Both frigates stood for each other and cleared their decks for action. After the initial hail from Bainbridge, *Java* answered with a broadside that severely damaged *Constitution*'s rigging.

Constitution was able to recover and returned a series of broadsides to *Java.* At that point, *Java*'s bowsprit became entangled in *Constitution*'s rigging, allowing Bainbridge to continue raking *Java* with broadsides until its foremast collapsed, sending the fighting top crashing down two decks below. Drawing off to make emergency repairs, *Constitution* approached *Java* an hour later, and the British ship surrendered. Determining that *Java* was far too damaged to retain as a prize, Bainbridge ordered the ship burned.

King James Bible, John Smith, Printer to Cambridge University, c. 1805

NHHC Detachment Boston

Battlefield souvenirs have been collected for centuries, and it was no different with U.S. Navy officers and crew. On 29 December 1812, Captain William Bainbridge, USS *Constitution*'s second War of 1812 commanding officer, was victorious against Captain Henry Lambert of HMS *Java*. The battle off the coast of Brazil lasted over two hours, ending after *Java*'s masts had been shot away and nearly all the British officers were wounded. Captain Lambert, mortally wounded from an American musket ball, died in São Salvador, Brazil, on 4 January 1813.

After the battle, Bainbridge described *Java* as: "laying like a log upon the water, perfectly unmanageable." Midshipman Dulany Forrest was a member of the *Constitution* party that boarded once the British warship surrendered. While on *Java,* he removed this King James Bible, possibly from a mess chest, as a spoil of war. Written on the page opposite the title page is "Mess No. 17."

A handwritten inscription is found on an end sheet: "Dulany Forrest's Book/Coast of Brazil/ December 29th/1812." And in a different hand, it continues:

> *This book was taken/from the British frigate/*Java *when she was/Captured by the U. States/frigate* Constitution/ *Commanded by Commodore/William Bainbridge/ Dec. 29th, 1812.*

Orlando Lagman, *Commodore William Bainbridge,* oil on canvas, 1966, U.S. Navy Art Collection.

The Corporation of the City of New York's "Freedom of the City" Gold Box

NHHC Detachment Boston

To be honored with the "Freedom of the City," be it from a city such as London, Paris, or New York in the eighteenth or nineteenth centuries was a mark of high distinction for government ministers, distinguished civil servants, or victorious military officers. The city of New York, site of the New York Navy Yard and important center of maritime commerce, gratefully bestowed several "Freedom of the City" awards on U.S. Navy officers for their successes against the Royal Navy in the War of 1812. William Bainbridge, victorious in USS *Constitution* over HMS *Java*, was honored by the city with this solid gold box which he sometimes referred to as a "snuff box." Inscribed inside the lid:

> *The Corporation/of the City of New York/to/ Commodore William Bainbridge/of the U.S. Frigate/*Constitution*/in testimony of the high sense/they entertain of his gallantry/and skill in the capture of his/Britannic Majesty's Ship/* Java*/on the 29th December 1812.*

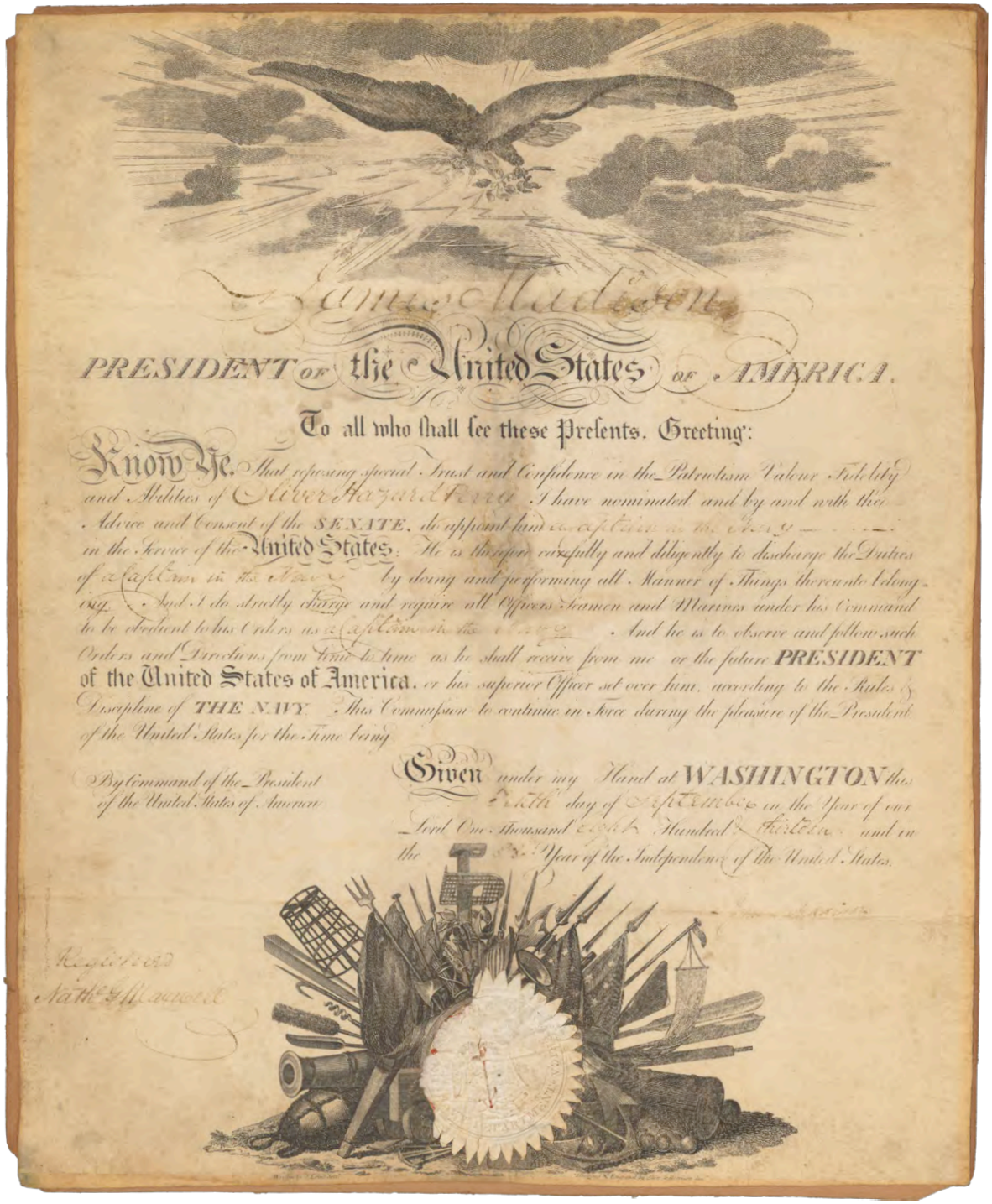
The gold hallmarks inside reveal that the box was made in Paris between 1798 and 1809. It was presented to Bainbridge in 1813.

Battle of Lake Erie, First View
by Thomas Sully and Francis Kearny

Hand-colored Engraving, c. 1815
U.S. Navy Art Collection

The Battle of Lake Erie was a major U.S. naval victory in the War of 1812, ensuring U.S. control over the lake and precluding any territorial cession to Great Britain in the peace settlement. On 10 September 1813, Commandant Oliver Hazard Perry's fleet of nine ships engaged six British warships under Captain Robert H. Barclay. After Perry's flagship, USS *Lawrence,* suffered heavy casualties and was reduced to a defenseless wreck, he transferred to USS *Niagara.* He led his forces directly into the British line, firing broadsides and forcing their surrender. The British lost 40 men, with 94 wounded; the Americans lost 27 killed and 96 wounded. The destruction of the British squadron on Lake Erie reversed the course of the northwest campaign and forced the British to abandon Detroit.

This hand-colored engraving was created only two years after the event in 1815, keeping the war and the battle in context to contemporary viewers and our historical view. Perry's ship is flying a banner with Captain James Lawrence's celebrated words "Don't Give Up the Ship" sewn on it, Perry is shown in a small rowboat transferring his command to *Niagara.*



Commission

Central Artifact Collection
Curator Branch

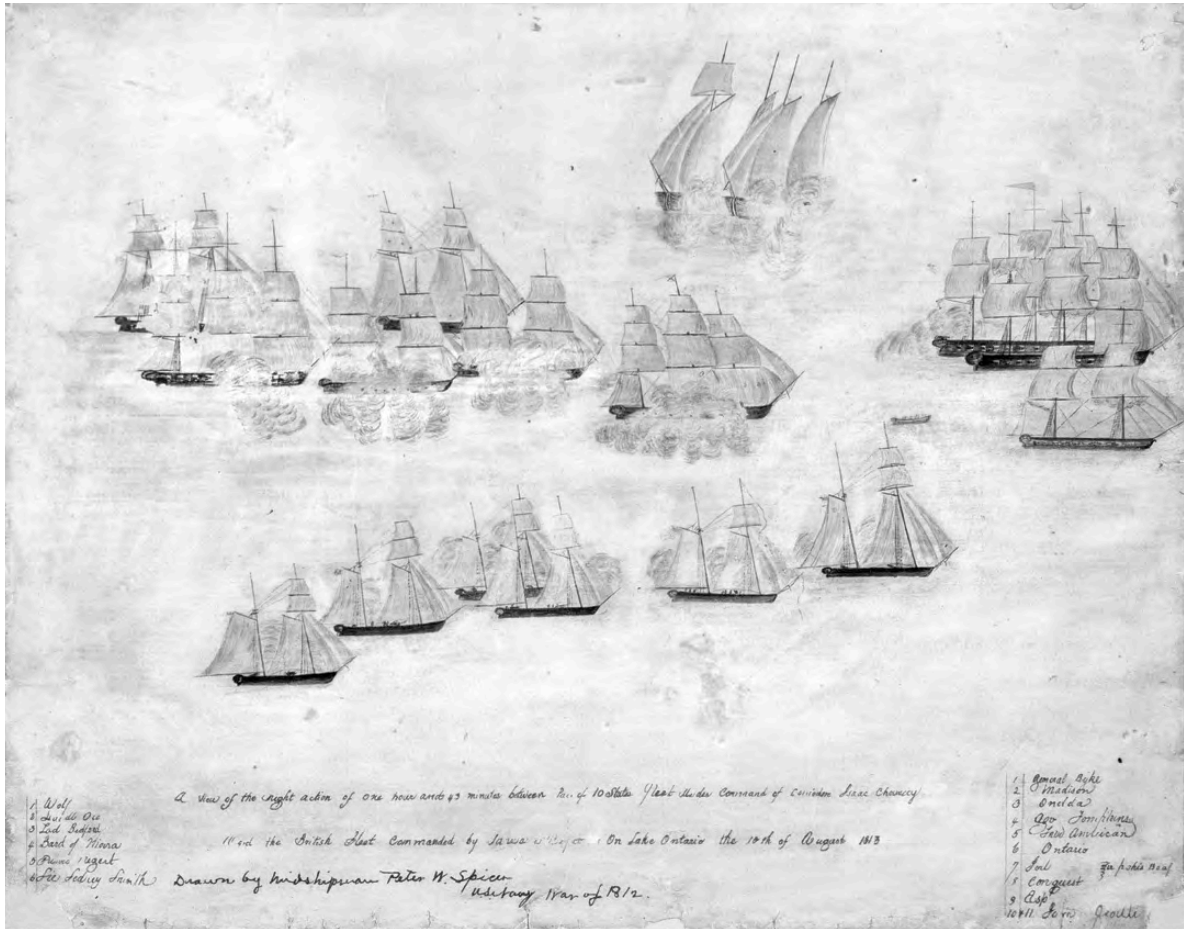
Article II, Section 3 of the United States Constitution states that the President “shall Commission all the Officers of the United States.” Commissioned military officers receive a commission certificate, signed by the President, for each time they advance in rank. This commission, signed by President James Madison, was presented to Oliver Hazard Perry on his advancement in rank to captain. It is dated 10 September 1813, the same date of the battle during which Perry and his forces captured the six vessels that made up the British Royal Navy squadron on Lake Erie. Perry would later receive a Congressional Gold Medal for his actions during the Battle of Lake Erie. Although he died in 1819, his legacy is widespread. Schools, cities, villages, towns, and monuments across the United States have been named for him. Six vessels in the U.S. Navy and a class of frigates have been named in his honor.

Don't Give Up the Ship Flag

U.S. Naval Academy Museum

The saying stitched on both sides of this iconic flag from the War of 1812 were the dying words of Master Commandant James Lawrence. Newly appointed to command the American 36-gun frigate USS *Chesapeake,* he joined the ship less than two weeks before it was discovered in Boston Harbor on 1 June 1813 by the 38-gun British frigate HMS *Shannon*. Eager to uphold American honor, and despite his unfamiliarity with his ship and men, Lawrence engaged his British foe in a ship-to-ship duel. In less than 15 minutes, Shannon overwhelmed the American ship, killing Lawrence and inflicting massive casualties on its untested crew. Despite his final words, *Chesapeake* surrendered and was brought into Halifax Harbor as a much-heralded British prize of war.

Several months later, Lawrence's friend and colleague, Commodore Oliver Hazard Perry, had this flag made and flew it at the masthead of his flagship, USS *Niagara,* at the Battle of Lake Erie, a decisive American victory. It came to the U.S. Naval Academy in 1849, where it was displayed until 2002 when it underwent conservation. During this process, its bright blue color was discovered to be a separate blanket that had been attached to it with holes cut out for the wording of its famous motto. Once removed, its original dark brown color was revealed to be undyed wool from black sheep.



Naval Action on Lake Ontario, 10 Aug. 1813
by Peter W. Spicer

Drawing, c. 1820
U.S. Navy Art Collection

This drawing depicts the engagements that took place on the Great Lakes during the War of 1812 in the battle for control of the border between Canada and the United States. Land and naval forces worked in tandem to engage enemy forces on the water and within the numerous fortifications that dotted the lakesides on either side of the border, none of which had decisive results. One of these raids in the lead-up to the invasion of Canada resulted in the burning of York, modern-day Toronto, which in turn inspired the British to later burn Washington, DC, in retaliation.

This work was drawn with pen and ink by a midshipman, Peter W. Spicer, who witnessed the action. He also wrote:

A view of the night action of one hour and 43 minutes between part of the U. States fleet under command of Commodore (sic) Isaac Chauncey, and the British fleet commanded by Sir James Yeo, on Lake Ontario the 10th of August 1813.

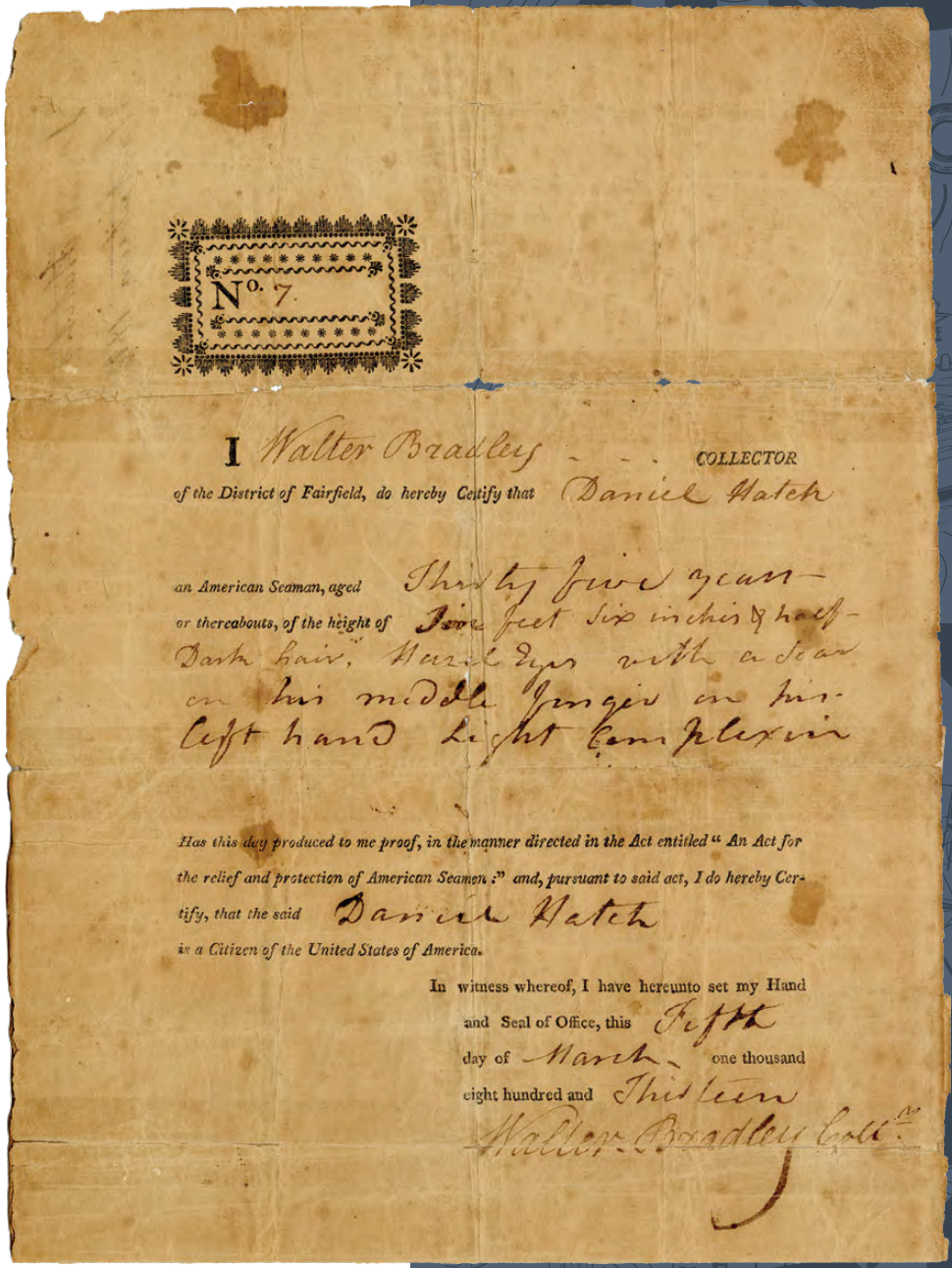
Seaman's Protection Certificate

National Museum of the American Sailor

In 1796, U.S. Congress passed the "Act for the Protection and Relief of American Seaman." In response to the growing number of American merchant seaman forced, or pressed, into the service of the Royal Navy, these government-issued documents provided proof of American citizenship and could protect a seaman from involuntary service. During the Napoleonic war with France in the late 1700s and early 1800s, Great Britain required a rapidly growing number of sailors. The Royal Navy suffered a high mortality rate, so impressment was used to bolster the service's manning. Upon boarding an American merchant vessel, if the Royal Navy suffered that a crewmember was British, they impressed them into service.

Voluntarily obtained and paid for by each seaman, preprinted protection certificates documented information such as name, place of birth, and physical attributes including skin and hair color. Certificates also included unique identifiers, such as tattoos, that would be difficult for an impostor to replicate. After completion, custom officials sent their registered certificate lists to the U.S. secretary of state's office for tracking. This 1813 certificate was issued in Fairfield, Connecticut, to Daniel Hatch, a 35-year-old American seaman.

As protection certificates could be forged, the Royal Navy did not always consider the documents valid. Between 1793 and 1812, the Royal Navy pressed more than 15,000 American merchant seamen. The practice served as one of the primary reasons for the United States declaring war on Britain in 1812.



No. 7.

I Walter Bradley . . . COLLECTOR
of the District of Fairfield, do hereby Certify that Daniel Hatch

an American Seaman, aged Thirty five years
or thereabouts, of the height of Five feet Six inches & half
Dark hair, Hazel Eyes with a Scar
on his middle Finger on his
left hand Light Complexion

Has this day produced to me proof, in the manner directed in the Act entitled "An Act for the relief and protection of American Seamen:" and, pursuant to said act, I do hereby Certify, that the said Daniel Hatch is a Citizen of the United States of America.

In witness whereof, I have hereunto set my Hand and Seal of Office, this Fifth day of March one thousand eight hundred and Thirteen

Walter Bradley Coll.

Levy Cup

Hampton Roads Naval Museum

Commodore Uriah Philips Levy (1792–1862) was appointed as a sailing master in 1812. A philanthropist and reformer, he also worked to abolish flogging as a form of punishment in the Navy. Levy was captured and imprisoned by the British during the War of 1812. Upon his return in 1814, he was presented with a silver julep cup in Norfolk, Virginia. The cup bears the monogram "UPL" for Uriah P. Levy and the Latin inscription *Dant Facta Hanc Coronam* (Deeds gave this crown).

Sword

Central Artifact Collection
Curator Branch

This sword belonged to midshipmen Horace Sawyer, who was assigned duty on USS *Constitution* from 14 December 1814 to 3 July 1815. On 20 February 1815, *Constitution* under the command of Captain Charles Stewart engaged HMS *Cyane* and HMS *Levant* 100 miles east of Madeira. The battle ended with *Constitution* accepting the surrender of both British ships. Unknown to Sawyer and the crew of *Constitution,* hostilities between the two countries ended with the signing of the Treaty of Ghent on 24 December 1814. This was the last combat action for *Constitution.*

James Queen, *Capture of H. M. Ships* Cyane *and* Levant *by the U.S. Frigate* Constitution, c. 1840, lithograph, U.S. Navy Art Collection.

Commodore John Rodgers
by Gilbert Stuart

Oil on Canvas, c. 1810
U.S. Navy Art Collection

Commodore John Rodgers (1773–1838), prominent in the wars against the Barbary powers, was the ranking active naval officer in the War of 1812 and first head of the Board of Navy Commissioners, 1815–37. First lieutenant on USS *Constellation* during its victorious engagement with the French frigate *L'Insurgente* in 1799, he was soon after promoted to captain. During the Barbary Wars, he blockaded Tripoli and captured the 16-gun Algerian brig *Mashuda*. In 1805, he succeeded to command of the Mediterranean Squadron and negotiated treaties that abolished U.S. tribute payments to Tripoli and Tunis.

While he commanded a squadron cruising to protect American commerce in 1811, his flagship USS *President* engaged the British sloop of war HMS *Little Belt.* After the British expeditions against Washington and Alexandria, Virginia, in 1814, his detachment of sailors and marines harassed the British during their withdrawal. In September of the same year, Commodore Rodgers played a leading role in the successful American defense of Baltimore against a formidable enemy force.

Due to his accomplishments, his portrait was painted by Gilbert Stuart, a well-known artist of the time, who also painted George Washington, Thomas Jefferson, and Oliver Hazard Perry. Stuart is widely considered one of America's foremost portraitists.

1813
1814

1815–60

1861
1862
1863
1864
1865
1866

The period between 1815 and 1860 marked a transformative era for the United States Navy—shifting from a modest coastal defense force to a professional and globally active maritime power. Following the War of 1812, the Navy focused on exploration, diplomacy, and humanitarian efforts while maintaining its readiness for combat. Artifacts highlighted in this chapter reflect the nation's expanding interests and growing international presence.

During this era, naval culture became more distinct, with sailors recognized by their standardized uniforms, language, and customs. Music served as both a practical tool and a morale booster, playing an important role in daily routines and formal occasions alike. Bands became regular fixtures on warships. Life at sea fostered strong communities, characterized by shared labor, discipline, and tradition.

The Navy extended its reach far beyond American shores, undertaking ambitious expeditions and scientific investigations, establishing diplomatic ties, and representing U.S. sovereignty in distant ports. These missions elevated the Navy's stature as an instrument of diplomacy and national influence. At the same time, the gradual shift from sail to steam revolutionized naval strategy and capability. Partly because of this technological change, the Navy established the United States Naval Academy in 1845, which represented an essential step in preparing officers for a rapidly changing maritime landscape.

Amid these advances, the Navy also undertook humanitarian missions, most notably its active role in suppressing the transatlantic slave trade. Patrols off the African coast intercepted slave ships and enforced international law.

This chapter's artifacts illustrate the Navy's growing professionalism, global engagement, and evolving mission, which laid the groundwork for the modern United States Navy.

Permutation Trumpet and Keyed Bugle

NHHC Detachment Boston

Music was important to the workings of a sailing warship. Marine fifers and drummers provided the cadence needed for long, tedious, and arduous tasks such as heaving around the capstan to raise the ship's anchor. The trilling of the boatswain's whistle issued the commands needed when raising and lowering the yards and sails of the ship's rig. Beginning in the 1820s, musicians were purposely recruited to form bands on U.S. Navy warships to provide entertainment, especially for visiting guests.

Nathan Adams served on board USS *Constitution* from 1824 to 1828, and although rated as a ship's corporal, he likely played in the ship's band. Histories of American brass band instruments, keyed bugles, and trumpets titled Adams as "master of the band" on *Constitution,* although he is not listed as so in the ship's muster roll. He was at the forefront of the earliest American attempts at providing brass instruments with valves. Valved instruments had been manufactured in Europe, but not yet in America until Adams's examples. These rare survivors of Adams's keyed bugle and permutation trumpet were made in Lowell, Massachusetts, in the mid-1820s for Paul Heald of nearby Carlisle, Massachusetts.

George Bancroft (1800–1891)
by Gustav Richter

Oil on Canvas, 1874
U.S. Naval Academy Museum

George Bancroft was a prominent American historian, statesman, and politician. He entered Harvard College at age 13 and graduated with the class of 1817. His father then sent him to Germany, where he studied Plato, history, languages, literature, and classics. In 1820, he received his doctorate from the University of Göttingen and then capped off his education with a European tour, during which he sought out almost every distinguished man in the European world of letters, science, and art. In 1845, he was appointed to James Polk's administration as Secretary of the Navy, serving until 1846. Although he served as Secretary of the Navy for only 18 months, his longstanding contribution to the service was the establishment of the Naval School at Annapolis. In 1850, the school was renamed to the U.S. Naval Academy. In his honor, Bancroft Hall, the dormitory that today houses all 4,200 midshipmen, was named for him.

Thomas Sully, *John Gwinn III,* 1837, oil on canvas, USS *Constitution* Museum Collection.

Rosary Beads

Gift of Pope Pius IX

NHHC Detachment Boston

In 1849, USS *Constitution* was underway in the Mediterranean Sea as part of the Mediterranean Squadron. Captain John Gwinn, commanding officer of the *Constitution,* invited Pope Pius IX and Ferdinand II, King of the Two Sicilies, on board when the ship was in the harbor of Gaeta, Italy. A warship is considered sovereign territory of its nation and Pius IX's visit to *Constitution* represents the first time that a Roman Catholic pope stepped foot on American territory. As thanks for the brief diplomatic shelter provided by Captain Gwinn with the visit to "Old Ironsides," the pope sent several sets of rosary beads to the ship to be distributed among the Catholic members of the crew.

These rosary beads were owned by Lieutenant Benjamin F. Shattuck, who was *Constitution*'s officer of the watch during the papal visit. The 1 August 1849 visit contradicted America's stance of neutrality during the political upheavals in revolution-torn Italy. The squadron commander, Commodore Charles Morgan, recommended Captain Gwinn for censure for violating the standing policy of neutrality. By the time the censure came through, Gwinn had died on 4 September 1849 in Palermo, Italy, from chronic gastritis.

Souvenir Box

NHHC Detachment Boston

USS *Constitution* has been the object of relic hunters for much of its career. The warship's enduring fame was established when its officers and crew sailed to victory in three War of 1812 battles against the Royal Navy. Recognized as a national symbol after the War of 1812, materials and objects from *Constitution* or its crew were collected, cherished, and handed down through generations. *Constitution*'s first dry docking began on 24 June 1833 in the Charlestown Navy Yard. The rebuilding generated plenty of wood and copper sheathing scraps that became walking sticks, snuff boxes, and a variety of covered urns, vases, bowls, and boxes. President John Quincy Adams received an "Old Ironsides" walking stick from War of 1812 captain Isaac Hull.

This six-inch utilitarian box with interior compartments was made from *Constitution* wood removed during the 1833–34 rebuild. A handwritten label inside confirms the material used: "Old Ironsides/The famous frigate *Constitution* (This box is made from her) . . ." The silver plate on the box lid is engraved: "Miss Elizabeth Pelham by Daniel Briggs Boston Sept. 21, 1835."

***The Loss of the* Peacock**
by Alfred T. Agate

Oil on Board, c. 1840
U.S. Navy Art Collection

Alfred Agate created this artwork during his service with the U.S. Exploring Expedition. Nicknamed for Lieutenant Charles Wilkes, who commanded this expedition, they set out to explore the Pacific Ocean, Antarctica, and Northwest region of the United States. USS *Peacock*—built in 1828—was one of six U.S. Navy vessels participating in the expedition. They departed Hampton Roads on 18 August 1838. Sailing south until ominous ice forced its withdrawal, *Peacock* rejoined the expedition at Valparaiso, Chile. The sloop visited various Pacific Islands and then proceeded to the Columbia River, where the ship attempted to cross the Columbia Bar. *Peacock* grounded on a shoal on 18 July 1841. The crew were unable to free the ship and during the night, heavy tides battered the sloop to pieces.

The expedition set the groundwork for the development of American scientific exploration in the nineteenth century. A large number of the materials and specimens gathered during this expedition became the foundation of the Smithsonian's collection.

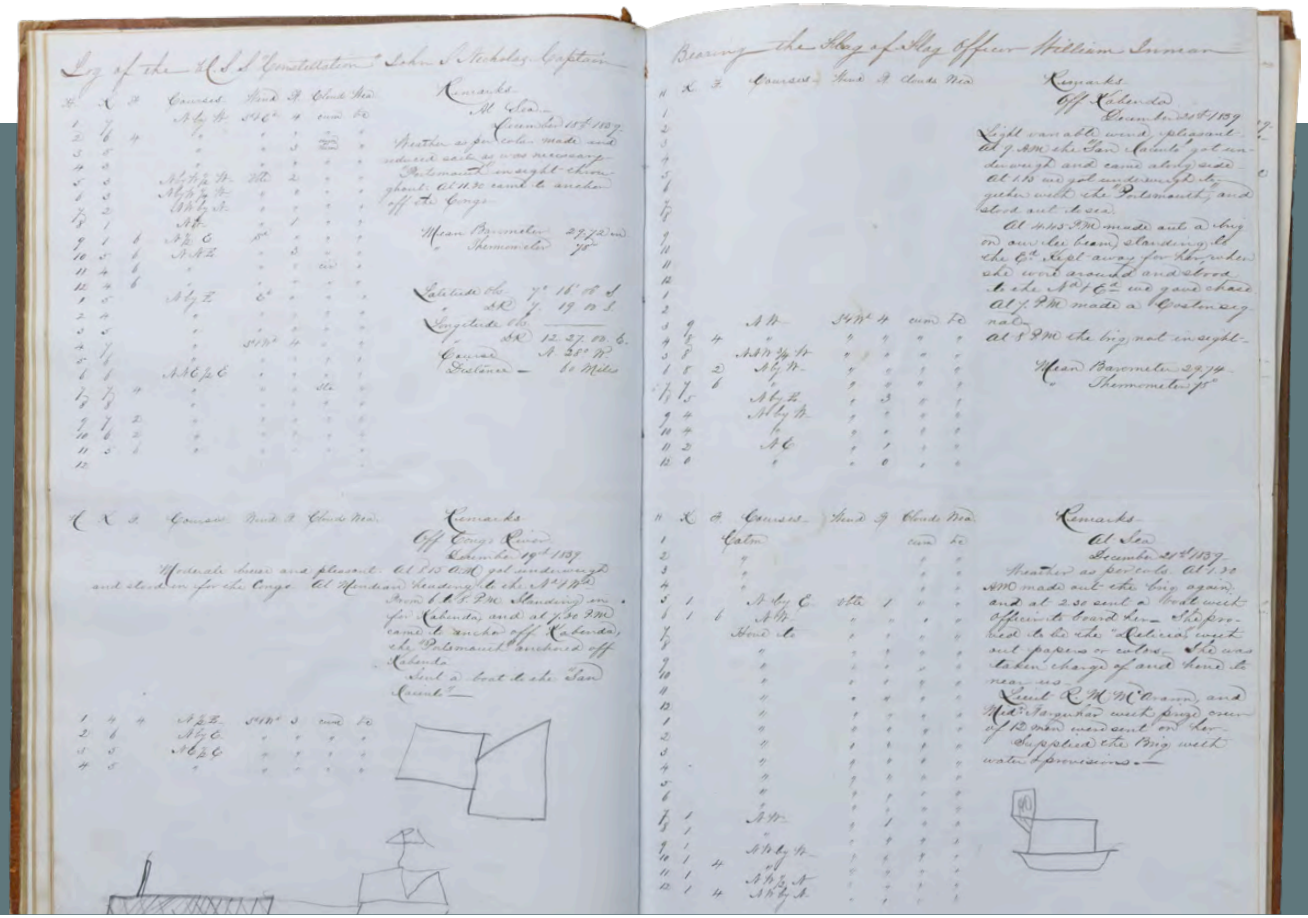
Anchor

USS Constellation

Naval War College Museum

This anchor was used on USS *Constellation* (1854), the last all-sail warship built for the U.S. Navy. *Constellation* served in the African Squadron in the 1850s and engaged in suppression of the slave trade. During the American Civil War, *Constellation* served on patrol in the Mediterranean from 1862–64 and became a receiving ship at Norfolk for the remainder of the conflict through 1869. *Constellation* spent several decades assigned to the Naval Academy, taking midshipmen on their summer training cruises. It was later used as a training ship at Naval Station Newport. Decommissioned in February 1955, the ship was preserved as a relic before it was transferred to a private nonprofit entity, which now operates it as a museum ship in Baltimore, Maryland.

USS *Constellation* before it was transferred to a private entity.



Ship's Log

USS Constellation

Naval War College Museum

Built in 1854 at the Gosport Navy Yard, USS *Constellation* was the Navy's last all-sail warship. This deck log was kept on board the sloop-of-war while on station with the African Squadron in 1859. One of its entries details the events of 21 December 1859, during midwatch when the crew spotted a suspicious ship and chased it through the night. The next morning, they boarded the ship, the brig *Delicia*, and discovered it was outfitted to carry slaves. *Constellation*'s captain impounded the ship and placed a prize crew on board to sail it back to the United States.

Legal action brought against the United States by the *Delicia*'s owners, the Spanish government. As U.S. laws had no bearing on foreign flagged vessels, once proof of ownership was provided, the ship was ordered released to Spanish control.

Seaman's Jacket

Hampton Roads Naval Museum

In the eighteenth and early nineteenth century, seamen were immediately recognized by their curious clothing and nautical speech. These traits reflected life aboard naval vessels with its own distinctive manners, dress, and language. This type of jacket, known as a "monkey jacket," was a standard article of clothing for enlisted sailors from the late eighteenth century until the American Civil War.

1859
1860
1866
1867
1868
1869
1870
1871

American Civil War, *1861–65*

When the Civil War began in 1861, the U.S. Navy entered the conflict woefully unprepared to execute President Abraham Lincoln's grand strategy. The Navy numbered 8,800 officers and men and 42 ships in active service, but Lincoln required a force large enough to blockade 3,500 miles of southern coastline, to control inland waterways, and to protect the merchant ships that carried out American commerce on the high seas.

By war's end, the U.S. Navy had dramatically transformed again. Not only had it completed its strategic missions and participated in several combined operations with the U.S. Army, but it numbered more than 58,000 officers and men and 671 active vessels. Further, it had amassed an impressive list of victories: Fort Hatteras, Island No. 10, Port Royal Sound, Fort Henry, Roanoke Island, Vicksburg, Mobile Bay, and Fort Fisher, among others. The U.S. Navy's achievements during the Civil War hastened the war's end, influenced the trajectory of naval warfare, and proved that a well-prepared navy was essential to national security.

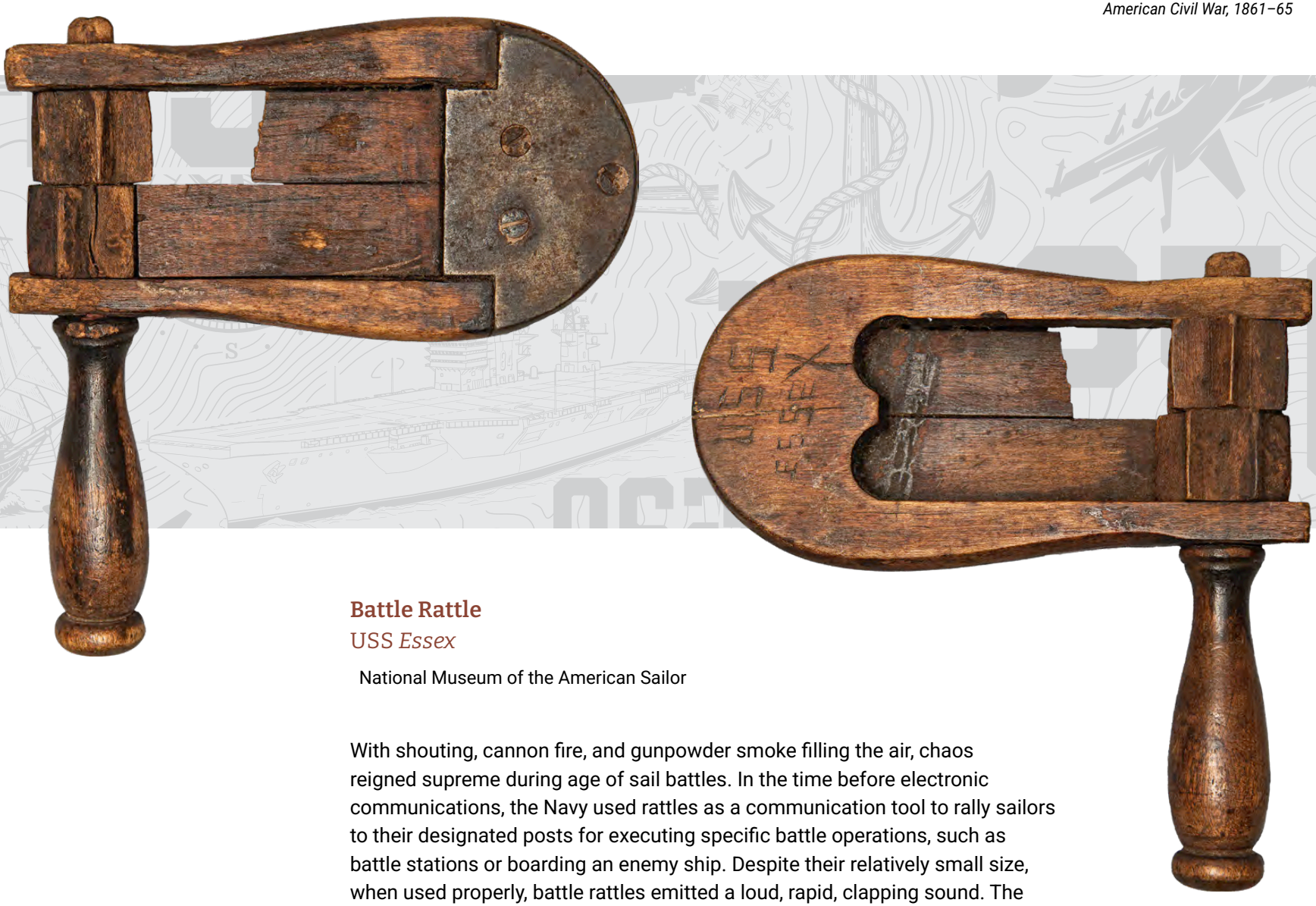
Among the U.S. Navy's remarkable collection of Civil War artifacts, it is worth highlighting those connected to the Battle of Hampton Roads, the world's first clash between ironclad warships. On 8 March 1862, CSS *Virginia* attacked the North Atlantic Blockading Squadron anchored in Hampton Roads, Virginia. This Confederate ram tore a hole in the wooden sloop-of-war USS *Cumberland.* Later that day, CSS *Virginia* attacked and burned USS *Congress* and forced USS *Minnesota* to run aground. The next day, the ironclad USS *Monitor* engaged with CSS *Virginia.* Though these two powerful warships fought to a draw, the clash heralded the end to a 300-year epoch in which sail-powered wooden vessels dominated the waters.

The artifacts in this chapter recall more than just the duel of the ironclads. They illuminate the challenges and victories in the Civil War: the attack of the Confederate submarine *H.L. Hunley,* USS *Kearsarge*'s victory over the Confederate raider CSS *Alabama,* the Battle of Mobile Bay, and much more. In many ways, the strategic victories along the Atlantic and Gulf Coasts, in the western rivers, and in foreign waters did as much to eradicate slavery and reunite the nation as those fought by the great armies before the gates of Richmond.

Horological Mine

U.S. Naval Undersea Museum

Inexpensive and effective, mines were historically employed by small or weak navies fighting more powerful opponents. During the American Civil War, the Confederacy turned to undersea mines, often referred to as torpedoes during this time period, to defend their waterways against the superior Union forces. Underwater mines did not change the outcome of any major American Civil War battle but sometimes slowed the U.S. Navy by damaging ships or forcing sailors to clear mines before advancing. Most Confederate mines detonated through contact mechanisms activated by physical contact with a ship. This unusual horological mine, one of only two examples known to exist today, was driven by a clock mechanism. Once a preset amount of time had passed, a spring-loaded rod impelled its hammer into a percussion cap, which exploded and set off black powder within the mine's body.



Battle Rattle

USS *Essex*

National Museum of the American Sailor

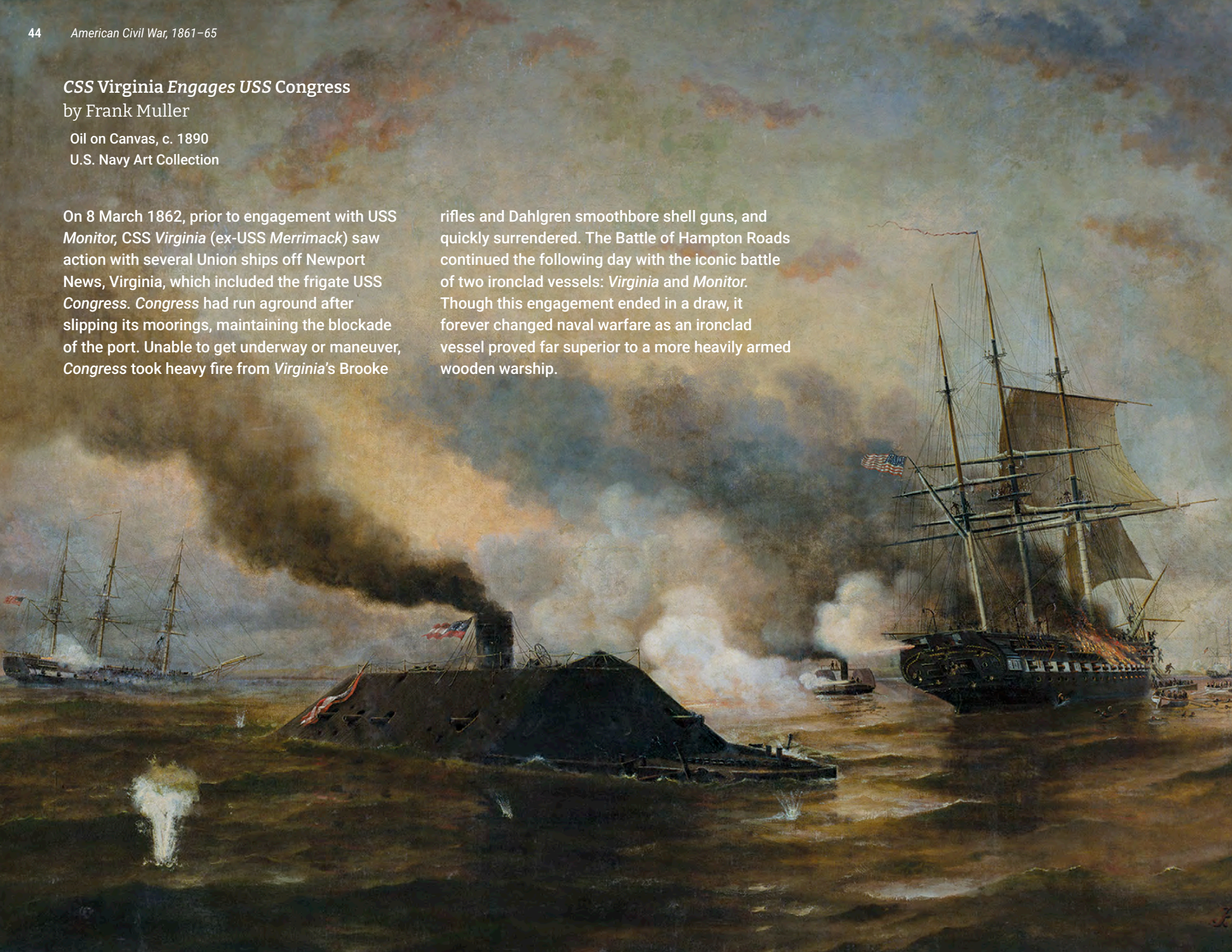
With shouting, cannon fire, and gunpowder smoke filling the air, chaos reigned supreme during age of sail battles. In the time before electronic communications, the Navy used rattles as a communication tool to rally sailors to their designated posts for executing specific battle operations, such as battle stations or boarding an enemy ship. Despite their relatively small size, when used properly, battle rattles emitted a loud, rapid, clapping sound. The U.S. Navy trained sailors on how to listen and react to this alarm. In the civilian world, policemen and firefighters also used similarly designed rattles. Typically crafted from water-resistant oak, battle rattles were either hand-held or mounted to a ship's deck railing. This oak hand-held battle rattle, which dates c. 1860–65, is from USS *Essex*, an ironclad river gunboat that patrolled western rivers during the American Civil War.

CSS Virginia *Engages USS* Congress

by Frank Muller

Oil on Canvas, c. 1890
U.S. Navy Art Collection

On 8 March 1862, prior to engagement with USS *Monitor,* CSS *Virginia* (ex-USS *Merrimack*) saw action with several Union ships off Newport News, Virginia, which included the frigate USS *Congress. Congress* had run aground after slipping its moorings, maintaining the blockade of the port. Unable to get underway or maneuver, *Congress* took heavy fire from *Virginia*'s Brooke rifles and Dahlgren smoothbore shell guns, and quickly surrendered. The Battle of Hampton Roads continued the following day with the iconic battle of two ironclad vessels: *Virginia* and *Monitor.* Though this engagement ended in a draw, it forever changed naval warfare as an ironclad vessel proved far superior to a more heavily armed wooden warship.



Bilge Pump Valve and Bilge Pipe Section

USS Cumberland

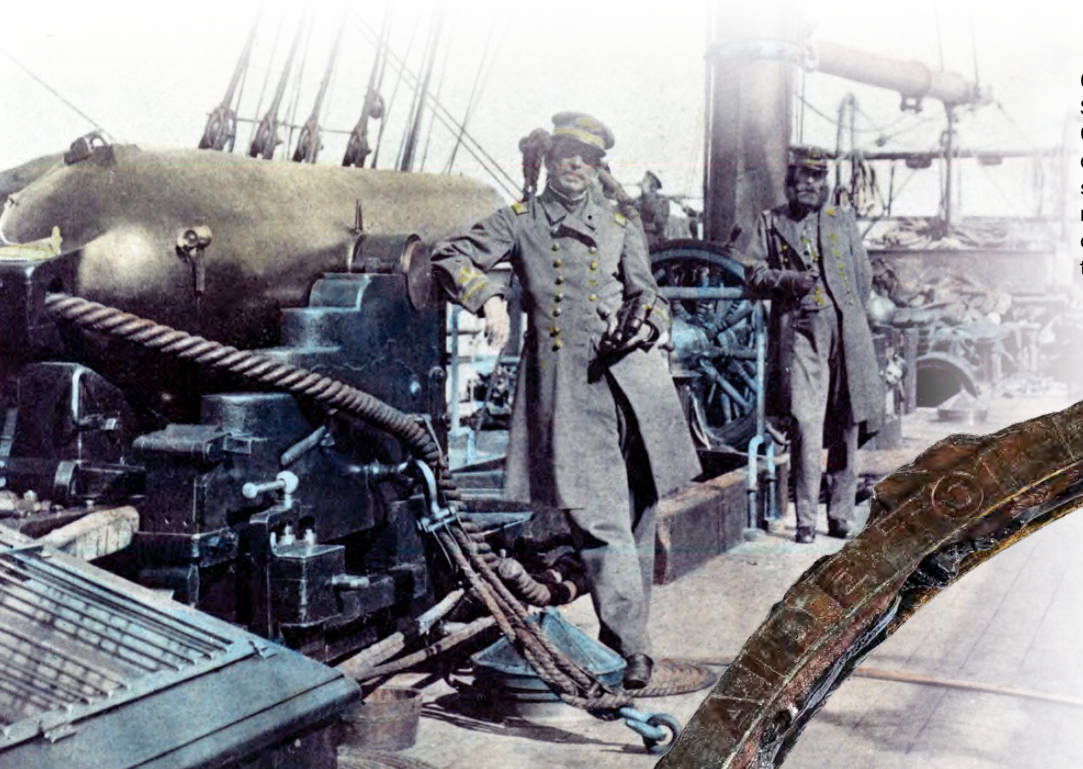
Hampton Roads Naval Museum

The Confederate ironclad CSS *Virginia* possessed multiple technological advancements over other ships of the time. Not only did the ship have iron armor but it was also outfitted with a ram at the ship's bow. The wooden sloop-of-war USS *Cumberland,* built in 1842 at the Charlestown Navy Yard, was greatly overmatched when the two encountered each other at the Battle of Hampton Roads in March 1862. *Virginia,* using its ram, tore a massive hole in the *Cumberland*'s starboard bow, "big enough to drive a horse and cart through." A pump was vital to keeping any Civil War era naval vessel afloat. When water collected in the bilge (lower part of the ship), *Cumberland*'s sailors manned the pump handles on the gun deck and brought the water up the pipes onto the deck and out the scuppers (holes in the hull). Tragically, the pumps could not handle the effects of *Virginia*'s ram. *Cumberland* sank and 123 sailors perished.

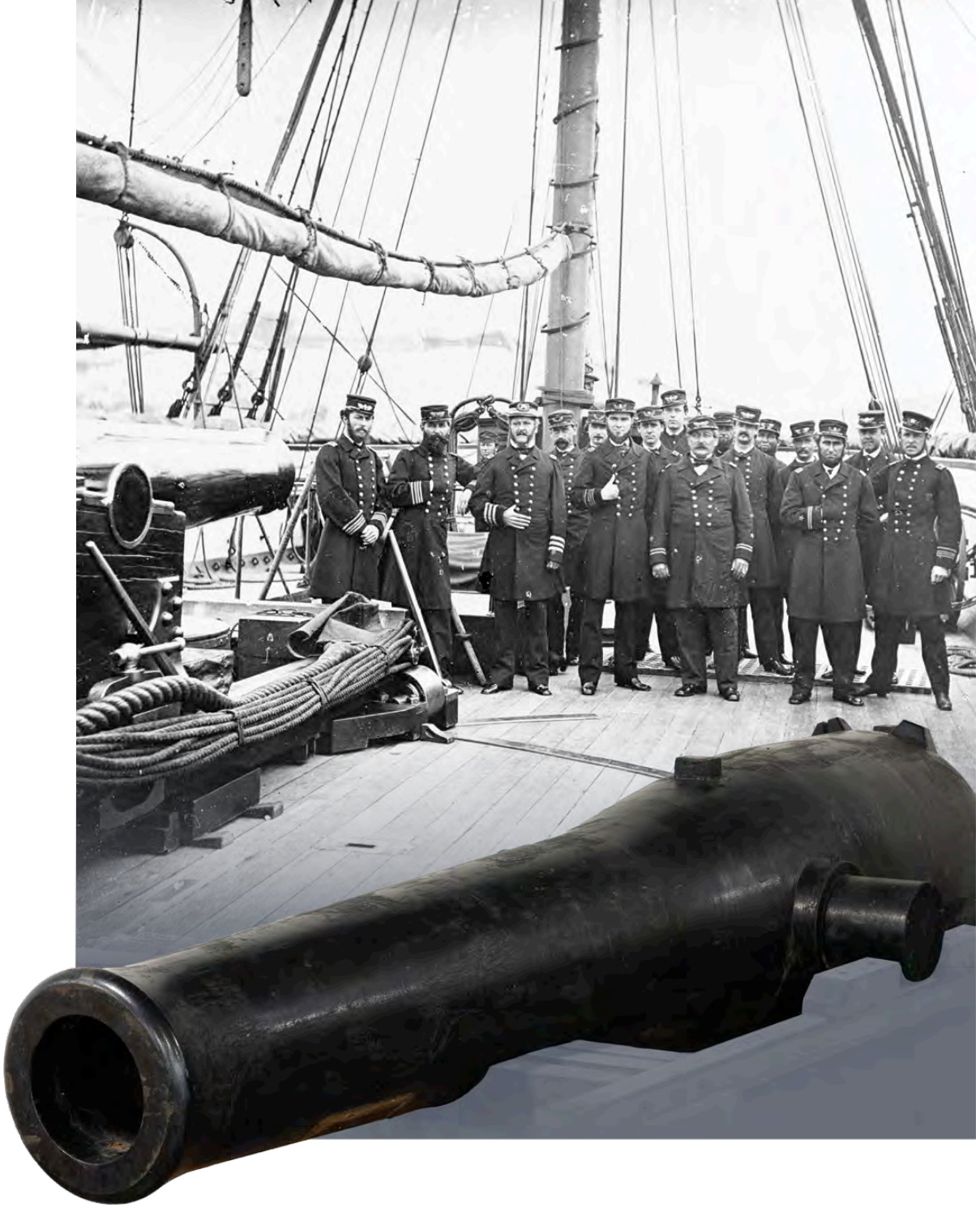
Ship's Wheel
CSS *Alabama*

Underwater Archaeology Branch

Built in secret near Liverpool, England, the screw sloop-of-war CSS *Alabama* became the Confederate States Navy's most notorious commerce raider. Commissioned on 24 August 1862 under the command of Captain Raphael Semmes, the 210-foot vessel spent the next 22 months raiding and destroying enemy shipping in the Atlantic, the Caribbean Sea, and the Indian Ocean. On 19 June 1864, *Alabama* sailed out from Cherbourg, France, to engage the warship USS *Kearsarge.* The ensuing Battle of Cherbourg lasted just over an hour before *Alabama* took a shell below the waterline and sank. When the wreck was discovered by a French minesweeper in 1984, there was an initial question regarding ownership since it was within French territorial waters, but was claimed as a spoil of war by the U.S. government. In 1989, the United States and France signed an agreement for joint research recognizing CSS *Alabama* as an important heritage resource of both nations, with the United States retaining title to the shipwreck. In 1988, the first investigation of the wreck led to the retrieval of the ship's wheel, engraved with the motto, "Aide-toi et Dieu t'aidera (God will help those who help themselves)." Subsequent American–French excavations in 1989–95, 1999, 2000, and 2002 yielded more than 500 artifacts.



CSS *Alabama,* Cape Town, South Africa, in August 1863. Capt. Raphael Semmes, commanding officer, is standing by a 110-pound rifled gun with his executive officer, 1st Lt. John Kell by the ship's wheel.



The officers of *Kearsarge* pose on deck, at Cherbourg, France, soon after their 19 June 1864 victory over CSS *Alabama.* On the left is *Kearsarge*'s XI-inch Dahlgren pivot gun, with its training tracks. (LOC)

XI-inch Dahlgren Shell Guns
USS *Kearsarge*

Central Artifact Collection
Curator Branch

Known as the father of American naval ordnance, John Dahlgren began his career in the Navy as a midshipman at the U.S. Naval Academy in 1826. He was assigned as an ordnance officer at the Washington Navy Yard. For the next 15 years, he designed and fabricated multiple large caliber guns, including several with a distinctive "soda bottle" shape. At the outbreak of the American Civil War, Dahlgren was appointed as the commandant of the Washington Navy Yard.

Named for their designer, this is one of two XI-inch Dahlgren shell guns used by the crew of *Kearsarge* during their engagement with *Alabama.* The XI-inch Dahlgren shell guns were also used on other Navy ships during this time period, including USS *Monitor* during its famous Battle at Hampton Roads against CSS *Virginia* in 1862.

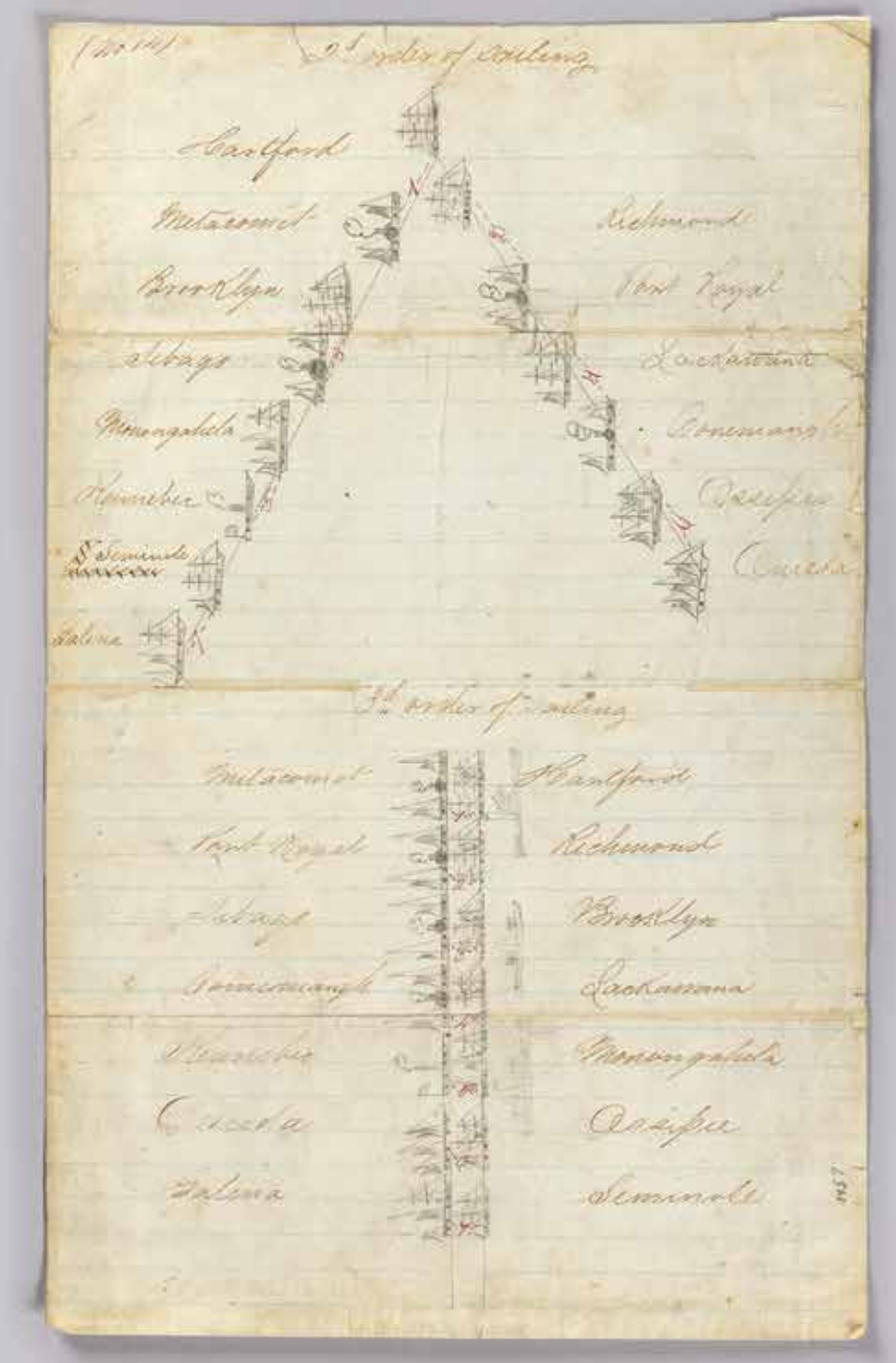
Image Credit: Warren Lash Conservation Center, Clemson University

H. L. Hunley

Underwater Archaeology Branch

Constructed in 1863 in Mobile, Alabama, the submersible *H. L. Hunley* was developed during a transformational period in naval architecture and warfare. Built from a rolled boiler plate and powered by a hand crank, *H. L. Hunley* was designed to confront the Union blockade of Confederate ports during the American Civil War. On 17 February 1864, *H. L. Hunley* approached the sloop-of-war USS *Housatonic* four miles off the entrance to Charleston Harbor, South Carolina, and rammed it below the waterline, detonating a torpedo mounted at the end of a 16-foot spar. The Union ship sank in a matter of minutes, taking the lives of five of its crew. After the attack, *H. L. Hunley* did not return.

In 1995, the wreck of the submarine was identified by a team from the National Underwater and Marine Agency, led by Clive Cussler, in partnership with the South Carolina Institute of Anthropology and Archaeology (SCIAA). In the summer of 2000, *H. L. Hunley* was scientifically documented and recovered by a consortium of partners from NHHC, SCIAA, and the National Park Service. The submersible's interior was subsequently fully archaeologically excavated, uncovering dozens of artifacts and the remains of its final crew.



Plan of Attack for the Battle of Mobile Bay

U.S. Naval Academy Museum

Mobile, Alabama, was the last Gulf port in Confederate hands east of the Mississippi River, defended by Admiral Franklin Buchanan. The Confederate naval forces consisted of the ironclad CSS *Tennessee* and three smaller gunboats, all of which Buchanan positioned under the guns of a trio of forts guarding the entrance to Mobile Bay. He also blocked part of the main channel with torpedoes, floating wooden barrels packed with explosives like modern naval mines. Leading the Union forces was Rear Admiral David G. Farragut. His squadron consisted of four ironclad monitors and more than a dozen wooden ships.

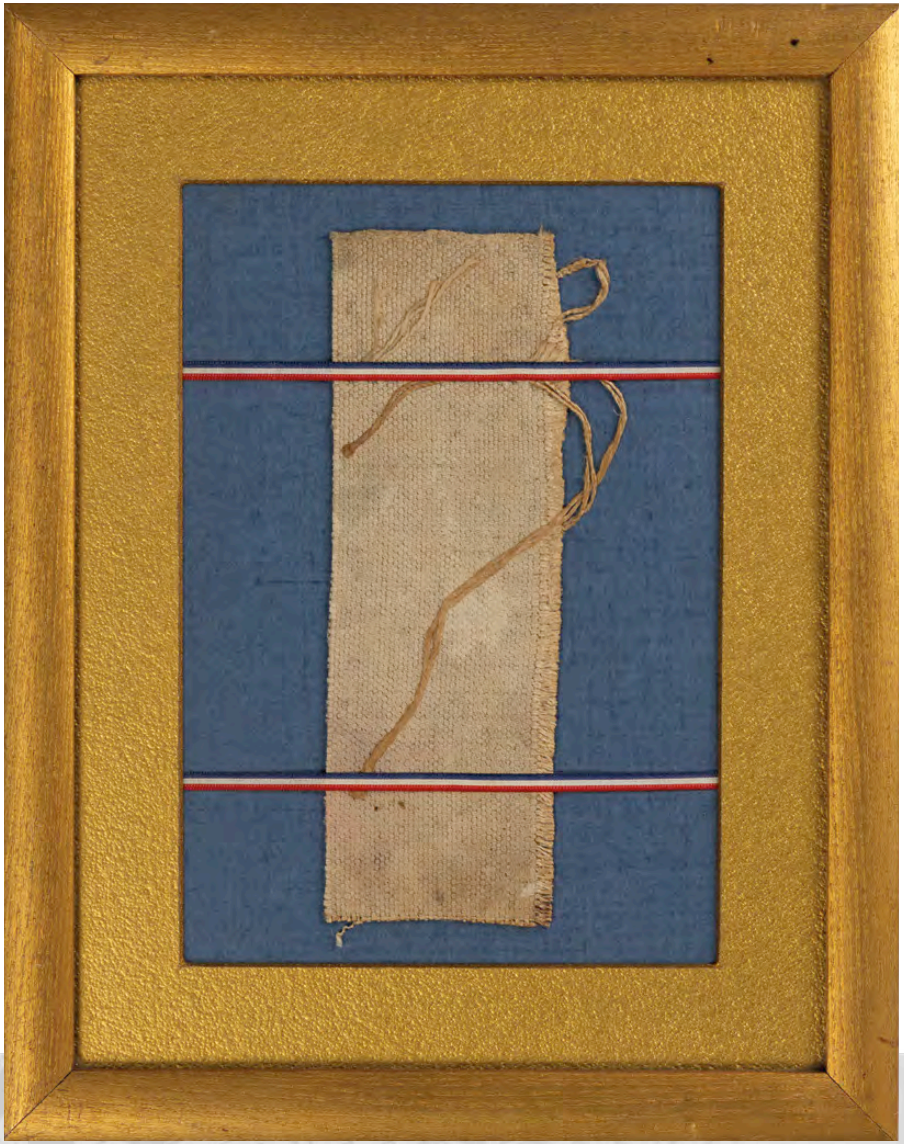
Farragut's plan, as shown on this document, was to storm past the forts into the bay, directly engage the Confederate fleet, and neutralize the forts. All went according to plan until one of his ironclads, USS *Tecumseh,* struck a torpedo and quickly sank. In response, his remaining ships slowed or stopped, causing them to drift toward Fort Morgan and its powerful shore batteries. Seeing this from his vantage point in the rigging of his flagship, USS *Hartford,* Farragut issued the command to pass through the field of torpedoes, often quoted as: "Damn the torpedoes, full speed ahead." He successfully passed through the torpedoes with the rest of his ships following in his wake. They moved out of range of Fort Morgan, at which point Buchanan led *Tennessee* into the fray. Bombarded from all sides, Buchanan surrendered, leaving the city in Union hands.

Ship's Bell
USS *Hartford*

Central Artifact Collection
Curator Branch

Named for the city of Hartford, Connecticut, the screw sloop-of-war USS *Hartford* was commissioned in 1859. This vessel later became famous as the flagship of Admiral David G. Farragut during the American Civil War. At the Battle of Mobile Bay, Farragut ordered his ship through a minefield, then referred to as "torpedoes," in what is colloquially known as the order to: "Damn the torpedoes, full speed ahead." After the war, *Hartford* became the flagship of the Asiatic Station Squadron in 1865 before returning to New York for decommissioning. Over the next several decades, *Hartford* moved in and out of a commissioned status, alternating from active sea service to storage.

This bell from *Hartford* is engraved with two different dates, the year of its first commissioning, 1859, and a later year, 1899, indicating a subsequent recommissioning. Ship bells are not only necessary pieces of equipment used for communication and to mark time.They have become an important parts of shipboard culture. Often seen as the voice of the ship, bells are regularly used for matters of protocol, ringing a commanding officer or senior Navy leader on and off the ship, as well as for ceremonial events on board.



Framed Piece of Sail
USS Hartford

Naval War College Museum

Despite its wooden hull and outdated technology, USS *Hartford* became useful again after its refitting and recommissioning in 1872 to help the U.S. Navy expand its global presence. In 1875, it became the flagship of the North Atlantic Squadron and was commanded by Captain Stephen B. Luce, the founder of the Naval War College. Rebuilt and recommissioned a second time in 1899, *Hartford* was assigned to training and station ship duty, and, in 1945, was towed to Norfolk Navy Yard as a relic. Neglected, the ship sank at its mooring on 20 November 1956. Many of its components were salvaged and dispersed to museums and organizations across the country. This framed fragment of its canvas sail, believed to have come from the ship after the Battle of Mobile Bay, was given to Rear Admiral William Sims, 15th President of the Naval War College.

USS *Hartford* off the Boston Navy Yard, Massachusetts, during the early 1900s.

Lantern
USS *Tulip*

Underwater Archaeology Branch

During the Civil War, a steam-screw gunboat, USS *Tulip,* was outfitted for service and joined the Potomac River Flotilla in 1863. Soon after, the starboard boiler was found to be defective and the ship was ordered to the Washington Navy Yard for repairs, with the express direction to only use the port-side boiler. During this voyage, the ship's engineers disregarded orders and supplied steam to the starboard boiler, causing it to explode. *Tulip* sank on 11 November 1864 in the Potomac River, Maryland. Out of the 57 sailors aboard, only 10 survived. The wreck was quickly buried in the muddy sediment of the brackish river, uniquely preserving the wreck and artifacts, many of which were removed by divers in the 1960s. Maryland Maritime Archaeology Program (MMAP) staff and several volunteers relocated the wreck site in 1994.

With the help from MMAP, more than 1,500 artifacts were recovered to NHHC. The site produced many unique items, in particular those illustrating shipboard life, such as chess pieces and tobacco pipes. One such artifact is a well-preserved oil lantern with its intact glass globe. An embossed label, "WM PORTER/232 WATER ST, NY," found on the bottom, denotes William Porter in New York as the manufacturer.

1859
1860

1865–1914

1866
1867
1868
1869
1870
1871

During the years immediately following the end of the American Civil War, the U.S. Navy experienced a period of rapid and significant downsizing. Postwar demobilization left the Navy a fraction of its former self. By 1879, the Navy's strength was down to 45 in-commission vessels. Americans wanted to focus on westward expansion and southern reconstruction rather than bear the expense of a large standing Navy. Technological changes occurring in foreign navies were ignored as the U.S. Navy emphasized sail-based propulsion, with steam only to be used at the commanding officer's discretion.

In the wake of the assassination of President James A. Garfield, U.S. political and military policy, and personnel, changed with the new administration, providing an opportunity for a stagnant Navy to be rebuilt and modernized. Construction began on new steam-powered steel ships that were quickly obsolete but paved the path for an expanded, modernized Navy.

The establishment of the Naval War College in 1884 provided a venue for the development of new naval strategy and policy. During his tenure at the college, Alfred Thayer Mahan wrote his seminal book *The Influence of Sea Power upon History,* advocating for large, powerful navies that shaped global naval strategy far beyond the nineteenth century.

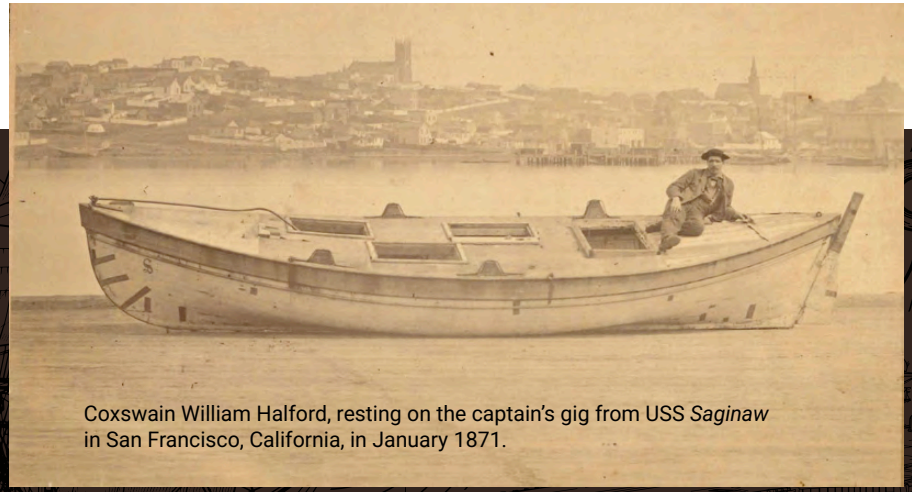
By the end of 1897, just prior to the Spanish-American War, the U.S. Navy had increased in size to 72 active ships, including six battleships. With American imperialism rising and politicians friendly to the Navy in office, the fleet continued to modernize and expand. A fleet of 16 battleships was ordered to circumnavigate the globe on a mission of public relations and power projection. All 16 ships were painted white, and the Great White Fleet, as it became known, provided Navy sailors with valuable experience at sea. This experience would serve them when the United States entered World War I.

Captain's Gig
USS *Saginaw*

Central Artifact Collection
Curator Branch

In October 1870, USS *Saginaw* (1859) was assigned to logistics duty, ferrying supplies between Hawaii and Midway Atoll to support dredging operations at Midway. On 28 October, *Saginaw* left Midway and steamed west toward Ocean Island, now known as Kure Atoll, to check for stranded mariners. The next day, the ship struck a reef at Kure Atoll and grounded, stranding the crew on the atoll. The commanding officer, Commander Montgomery Sicard, ordered the captain's gig be modified for open-ocean sailing to sail to Hawaii for assistance. Over several weeks, the boat was modified by adding masts, a hard deck, and hatches in the deck for crew. Five men, Lieutenant John Talbot, Peter Francis, John Andrews, James Muir, and William Halford, set sail from Kure Atoll on 18 November, a 1,500-mile journey to Hawaii.

Over the next 30 days, the crew of the gig experienced severe malnourishment, dehydration, and exhaustion. Fearing their death, they inscribed their names on the aft-most hatch coaming. On 18 December, the gig reached the north shore of the island of Kauai. While attempting to reach land in Hanalei Bay, three of the men drowned in the surf; only Halford and Muir made landfall. Muir suffered a head wound and died shortly after. Locals provided Halford with transportation to Honolulu, where he shared news of *Saginaw*'s grounding. Two ships were dispatched to rescue the stranded men still on Kure Atoll; all were rescued. Halford was subsequently awarded the Medal of Honor for his actions.



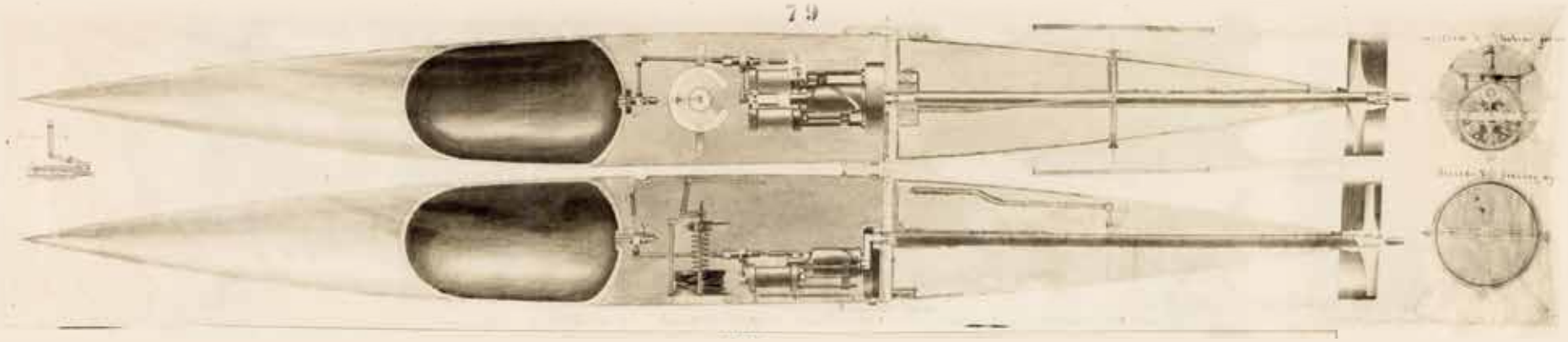
Coxswain William Halford, resting on the captain's gig from USS *Saginaw* in San Francisco, California, in January 1871.

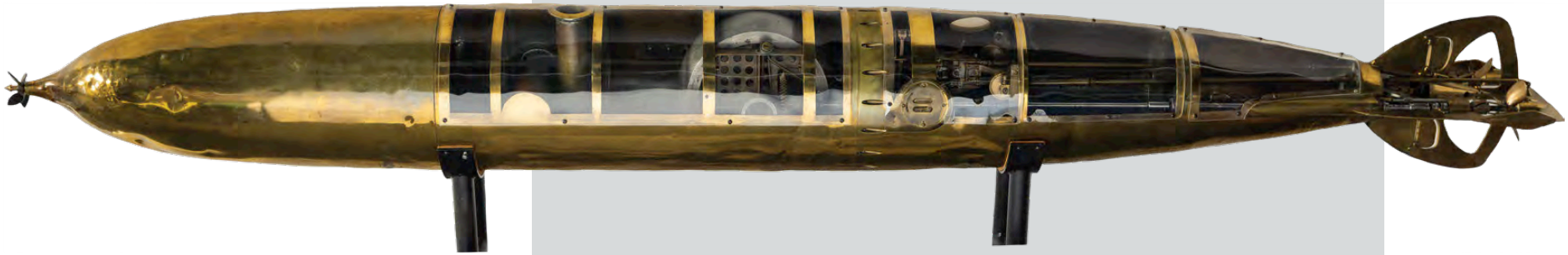
Below: Aft hatch coaming showing the crew's names inscribed into the wood.

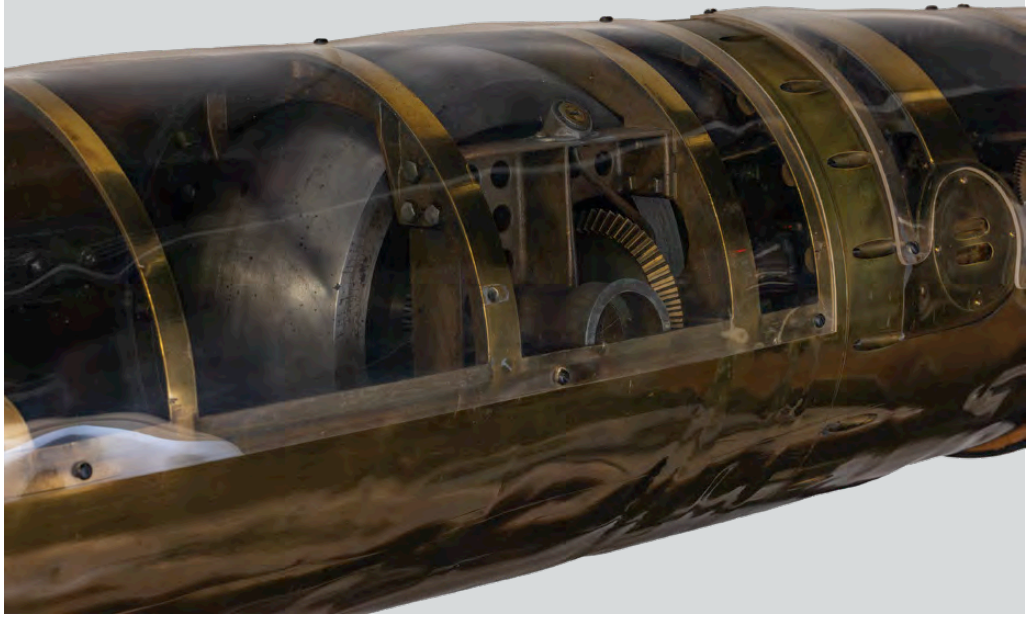
Fish Torpedo

Naval War College Museum

The Fish was the first design for an automotive torpedo produced by the U.S. Navy. The initial prototype was completed in 1871 and was powered by compressed air. It had a range of 200 yards and carried a 100-pound charge of dynamite. The Fish was purely experimental but paved the way for future torpedo designs.







Howell Torpedo

U.S. Naval Undersea Museum

Lieutenant Commander John Howell invented the Howell torpedo in the 1870s, after the United States declined to purchase the Whitehead torpedo in favor of developing its own. Howell's design became the first successful American self-propelled torpedo and the first torpedo used in service by the U.S. Navy.

In a clever feat of engineering, Howell gave his weapon a heavy flywheel that powered and directionally stabilized the torpedo. A shipboard steam turbine spun the flywheel to 10,000 revolutions per minute before launching, supplying enough stored energy to move the torpedo 400 yards through the water.

Howell torpedoes entered service around 1895 and were carried on Navy battleships and torpedo boats. The concurrent adoption of Whitehead torpedoes truncated the Howell program by the early 1900s.

Howell Torpedo No. 24

Underwater Archaeology Branch

In 2013, during a routine training exercise, two dolphins from the U.S. Navy's Marine Mammal Program indicated the presence of an unknown buried object. When this was subsequently investigated, it turned out to be a rare nineteenth-century torpedo. The Howell Mark 1 torpedo, developed between 1870 and 1889, was the first self-propelled torpedo of American design. While many contemporary torpedoes utilized internal compressed air engines, the Howell was steam powered by a 132-pound flywheel that drove the propellers. In 1888, the Navy ordered 50 Howell torpedoes, which were used on battleships and torpedo boats for about 10 years.

Upon delivery to the NHHC Underwater Archaeology Branch, a close inspection revealed a stamped serial number: USN No. 24. Extensive archival research led to a deck log entry from USS *Iowa* (Battleship No. 4) on 20 December 1899 that stated, "Lost H. Mark I, No. 24 torpedo." *Iowa* had anchored off the coast of San Diego to conduct target practice. The wooden practice warhead was not located, but a phosphate canister discovered during treatment confirmed its use for practice at the time of loss. Previous to the discovery of No. 24, only two Howell torpedoes were known to exist, located at the U.S. Naval Undersea Museum and the Naval War College Museum. Despite spending more than a century underwater, Howell torpedo No. 24 was in a relatively good state of preservation.

Dynamo-Electric Machine

U.S. Naval Undersea Museum

The Naval Torpedo Station in Newport, Rhode Island, used dynamo-electric machines from the 1870s to the 1890s to test and fire undersea mines (then known as torpedoes). The station was established in 1869 to advance mine technology and develop self-propelled torpedoes. Engineer Moses Farmer originally invented the dynamo-electric machine in the 1860s to power electric lights.

The small electric generators converted mechanical energy, created by turning a hand crank, into electrical energy. Farmer adapted his device to detonate mines after beginning work at the torpedo station in 1872. This “pattern C” model, dated 1885, was carried aboard a boat and wired directly to the mine. An operator could verify the electric circuit was closed before completing the firing circuit to explode the mine’s gunpowder. Dynamo-electric machines fell out of use in the 1890s with the adoption of torpedoes detonated by contact exploders.

U.S. Marine Corps Cap Insignia

USS *Huron*

Underwater Archaeology Branch

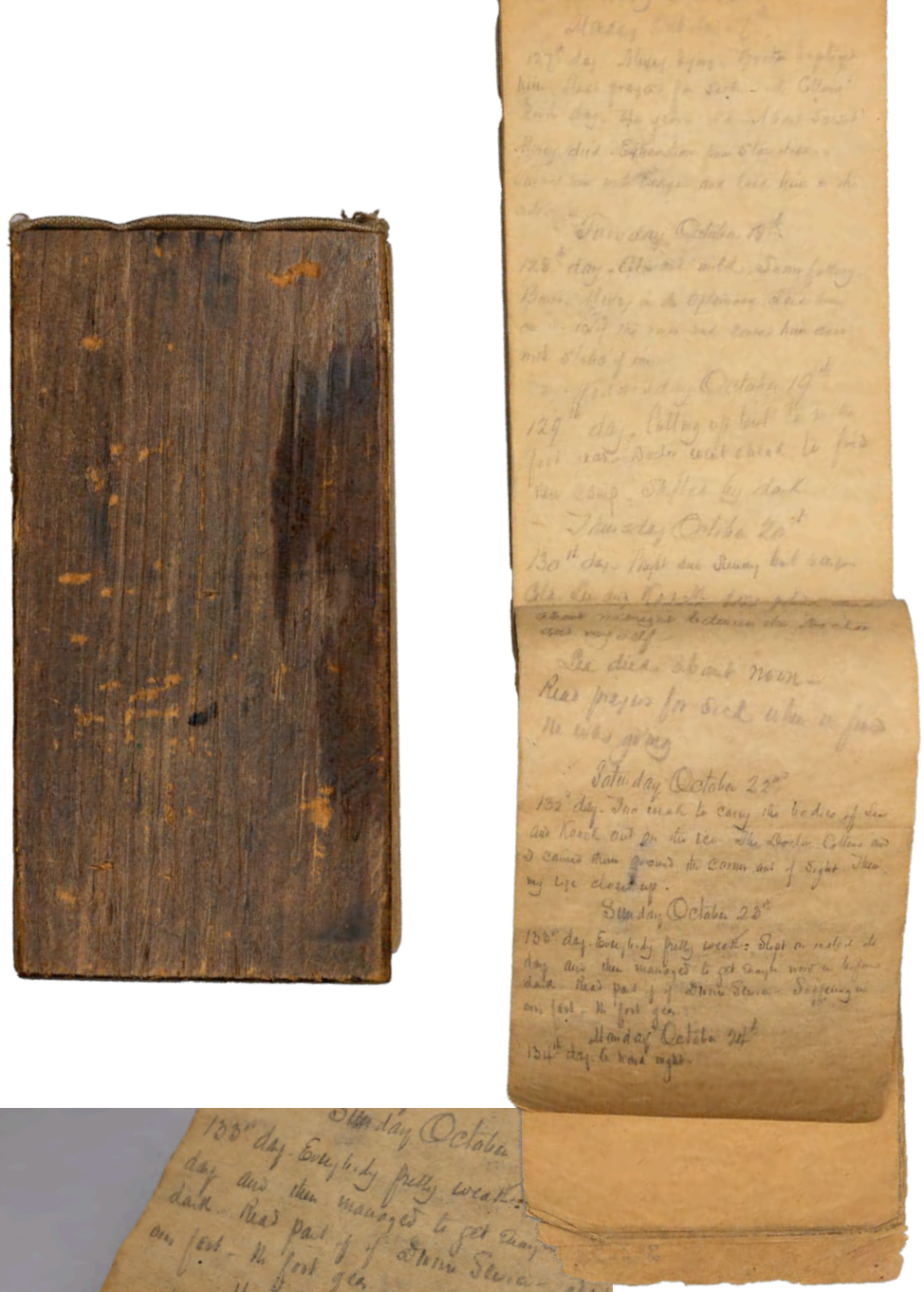
Detachments of Marine Corps personnel have served in various capacities aboard Continental and U.S. Navy ships from the beginnings of the Continental Marine Corps. One such detachment was detailed to USS *Huron* (1875), a sloop-rigged steamer that was among the last iron warships built before the Navy advanced to steel construction in the late nineteenth century. *Huron* had a complement of 134 men, 15 of which were U.S. Marine Corps non-commissioned officers and privates. While in route to Cuba for a surveying expedition, *Huron* encountered heavy weather and thick fog off Nags Head, North Carolina, which caused the vessel to run aground. Sailors and marines worked side by side to free the ship, but the vessel ultimately wrecked in the early morning of 24 November 1877 with the loss of 97 men.

Over the years, the shipwreck has been frequently disturbed. NHHC has been able to relocate, recover, and conserve many artifacts from the wreck site to include a brass cap pin bearing the Eagle, Globe, and Anchor (EGA) insignia. At the time, enlisted marines wore fatigue caps, sometimes referred to as kepi-style caps, bearing a similar pin on the front. The EGA design was adopted by the Marine Corps in 1868 and today is arguably the service's most recognizable symbol.

Ice Journal of the *Jeannette* Expedition

U.S. Naval Academy Museum

On 8 July 1879, Lieutenant Commander George DeLong and 32 hand-picked men departed San Francisco, California, aboard the converted steam yacht *Jeannette* on a pioneering quest to reach the North Pole via the Bering Strait. They continued north into the Arctic Sea until winter ice locked *Jeannette* in a vice-like grip. No panic ensued, as they believed the coming spring would melt the ice, enabling their safe return to California. When the spring thaw did not occur, they faced being icebound for another year. Disaster struck on 13 June 1881, when the shifting ice mass crushed *Jeannette.* Before it sank, the men salvaged three lifeboats. DeLong devised a plan to drag the boats south across the ice until they reached open water, then sail the last leg of a 600-mile journey to Siberia and safety. After enduring terrible hardships, they finally reached the coast, where they split into three groups, one for each boat, and set sail for Siberia. One boat capsized immediately, killing everyone aboard. Engineer George Melville's party arrived safely and was rescued by Inuit natives. DeLong's boat reached Siberia, but they found no inhabited settlements, forcing them to march inland in search of help. He continued to make daily entries in his journal until Day 140, when he and the last of his men succumbed to the cold and hunger. Melville later found the "Ice Journal" next to his commander's frozen body.



Rear Adm. Stephen Luce, c. 1888

Rear Admiral Stephen B. Luce's Service Dress Blue Coat

Naval War College Museum

Stephen B. Luce was known as a reformer in the Navy of the late 1800s. He believed that enlisted men needed better training to operate the complex machinery found on steel warships. In 1883, the Navy established the Naval Training Station at Newport, Rhode Island, under Luce's command. He organized and ran the apprentice training program, an early version of basic training. Luce wore this uniform at his official retirement in 1889.

Ostrich Egg

Naval War College Museum

There is a longstanding tradition of sailor art in maritime history. Seaman Andrew Raiche obtained and decorated this ostrich egg during his two-year voyage on board the screw sloop *Enterprise*. Raiche, a native of Maynard, Massachusetts, was a bugler, and possibly obtained the egg during a stop in Aden, in present-day Yemen. It is dated 18 May 1889 and bears the inscription “From Andrew to Mother.” Raiche reproduced several scenes he encountered during the cruise including a sphinx, a pyramid, ostriches, a cobra and a mongoose, a butterfly, a locust, and a flower.

General muster on the main deck of *Enterprise,* circa 1890.The commanding officer, Capt. Bowman H. McCalla, is standing in the *right center,* with hands clasped in front. Note the Marine drummer and bugler in the *left center,* just beyond the hatch and pump.

A sailmaker wearing a palm while working with canvas as an apprentice watches, c. 1941, Brooklyn Navy Yard, New York. (LOC)

Sailmaker's Palm

National Museum of the American Sailor

Wind-powered sails provided the U.S. Navy's age of sail ships with their primary mode of propulsion. Ripped sails could leave a ship motionless and thus "dead in the water." In addition to using thicker sailmaker's needles for sail repairs, a sailmaker's palm, such as this example from c. 1890, was an essential piece of everyday equipment familiar to all Navy sailors. Made of flexible rawhide or leather, the palm slipped over a sailor's hand and had an opening for the thumb. A strap secured the palm to the hand. The palm stabilized the needle while also cushioning and protecting the hand when sewing through tough canvas. In addition to serving as a useful sail repair tool, Navy sailors also used sailmaker's palms for repairing and splicing rope. Sailmakers today still use similarly designed palms for mending sails.

Captain Alfred Thayer Mahan's Desk

Naval War College Museum

Captain Mahan used this desk to write part of his famous book, *The Influence of Seapower upon History, 1660–1783.* The book began as a series of lectures he gave at the Naval War College and was published in 1890. It is routinely cited as one of the most influential works on global naval strategy ever published. Historians consider it a contributing factor to the United States becoming a great power in the early twentieth century.

Captain Alfred Thayer Mahan, undated, oil on canvas, U.S. Navy Art Collection.

Lieutenant Ambrose Wyckoff's Glasses

Puget Sound Navy Museum

These glasses were worn by Lieutenant Ambrose Wyckoff, who played a key role in establishing the Puget Sound Naval Shipyard in Bremerton, Washington. Wyckoff first visited Puget Sound in 1877 with a surveying party and began advocating for a shipyard to be located in the region. Wyckoff noted that the location offered a mild climate, plentiful natural resources like timber (which would have been an important consideration for a nineteenth-century naval shipyard), and deep natural harbors, making it an ideal site for naval operations.

It would be the Navy's first permanent facility in the Pacific Northwest. The strategic importance of the Puget Sound location became increasingly clear as naval operations expanded in the Pacific during the latter half of the nineteenth century.

Wyckoff's vision seemed far-fetched in the 1870s. Washington would not become a state until 1889, and there were doubts about the feasibility and political support for such a major project. Despite the challenges, he continued to advocate for the shipyard, lobbying Congress and Navy leadership. His dream became a reality in 1891 with the establishment of Naval Station Puget Sound, and Wyckoff returned as the new shipyard's first commandant. Today, this shipyard whose establishment he spearheaded remains a crucial facility for ship maintenance, repairs, and recycling.

Dry Dock Timber

Puget Sound Navy Museum

This piece of timber was used to build the first dry dock at Puget Sound Naval Shipyard (PSNS) in Bremerton, Washington. Before this, U.S. Navy ships in the region were forced to go to California or Canada for repairs. This new dry dock would allow ship repair work to be done locally.

Above: This image, taken on 1 August 1894, shows the construction of Puget Sound Naval Shipyard's first dry dock.
Below: USS *Monterey* (Monitor No. 6) was the first ship to use Dry Dock 1 at Puget Sound Naval Shipyard. Taken on 22 April 1896, the shipyard used poles against the hull and the interior sides of the dry dock to keep *Monterey* upright.

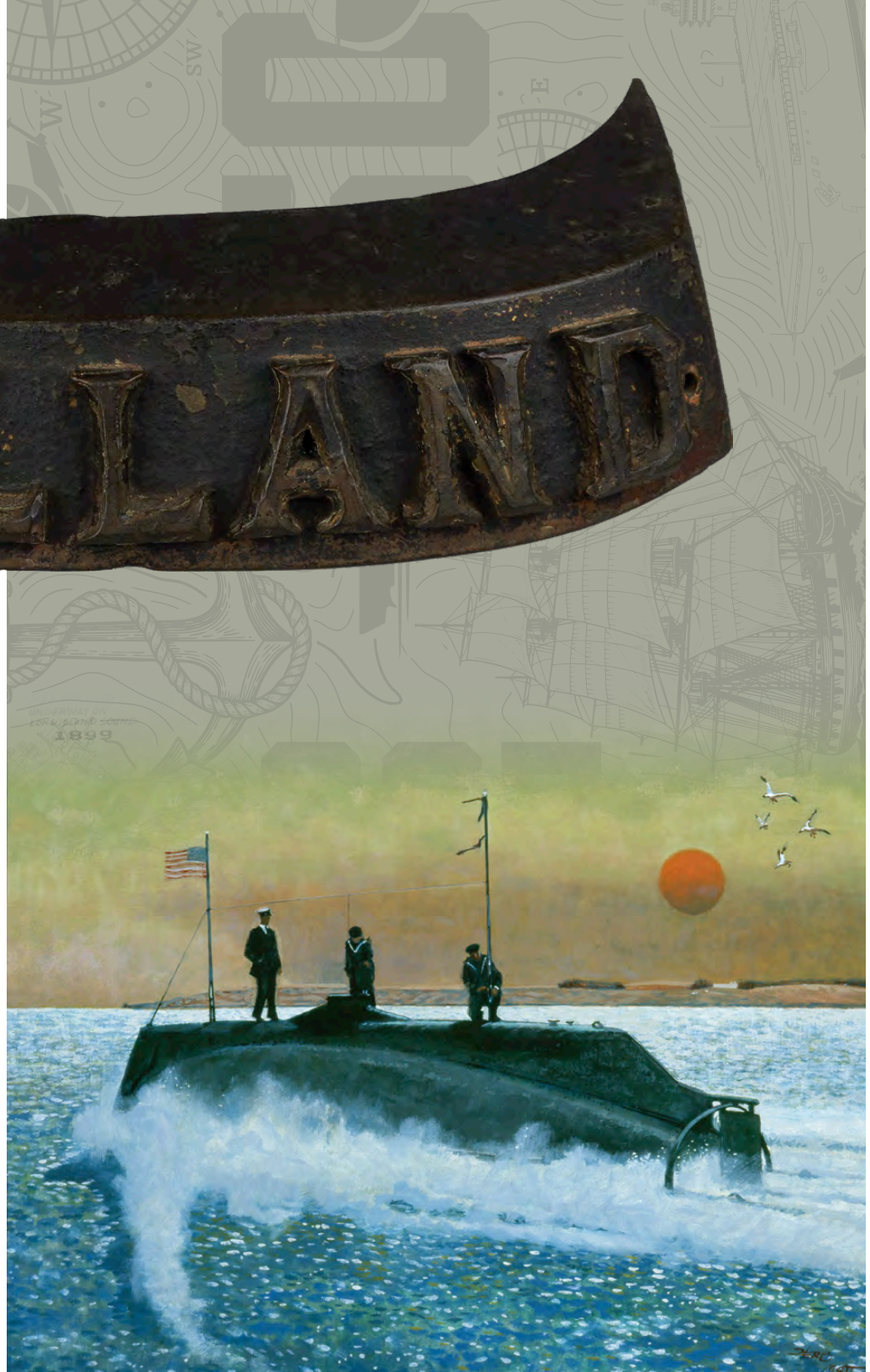
Dry docks are essential to shipyard operations. The dock is flooded to allow ships to enter or exit. When drained, they provide a dry working area for shipbuilding, repair, overhaul, and maintenance. When built, Dry Dock 1 had wooden sides, except for the 70 feet closest to the opening, which were made of granite. This strategy was meant to protect the wood from damage by naval shipworms. The dry dock was 650 feet long and 130 feet wide, making it one of the U.S. Navy's largest dry docks at the time.

Stern Plate

USS *Holland* (SS 1)

Central Artifact Collection
Curator Branch

This stern plate is from USS *Holland* (Submarine Torpedo Boat No. 1), the U.S. Navy's first submarine. Developed by John Philip Holland, *Holland* launched in 1898 and was commissioned on 12 October 1900. The submarine was used primarily as a training platform, teaching the Navy's first generation of submariners, enlisted and officer, to man the fleet of submarines the Navy had ordered. *Holland* was decommissioned and struck from the Navy Register of Ships on 21 November 1910 and sold for scrap.



Herb Mott, *USS* Holland *Underway, Long Island Sound,* 1899, oil on canvas, U.S. Navy Art Collection.

Lantern

USS *Holland* (SS 1)

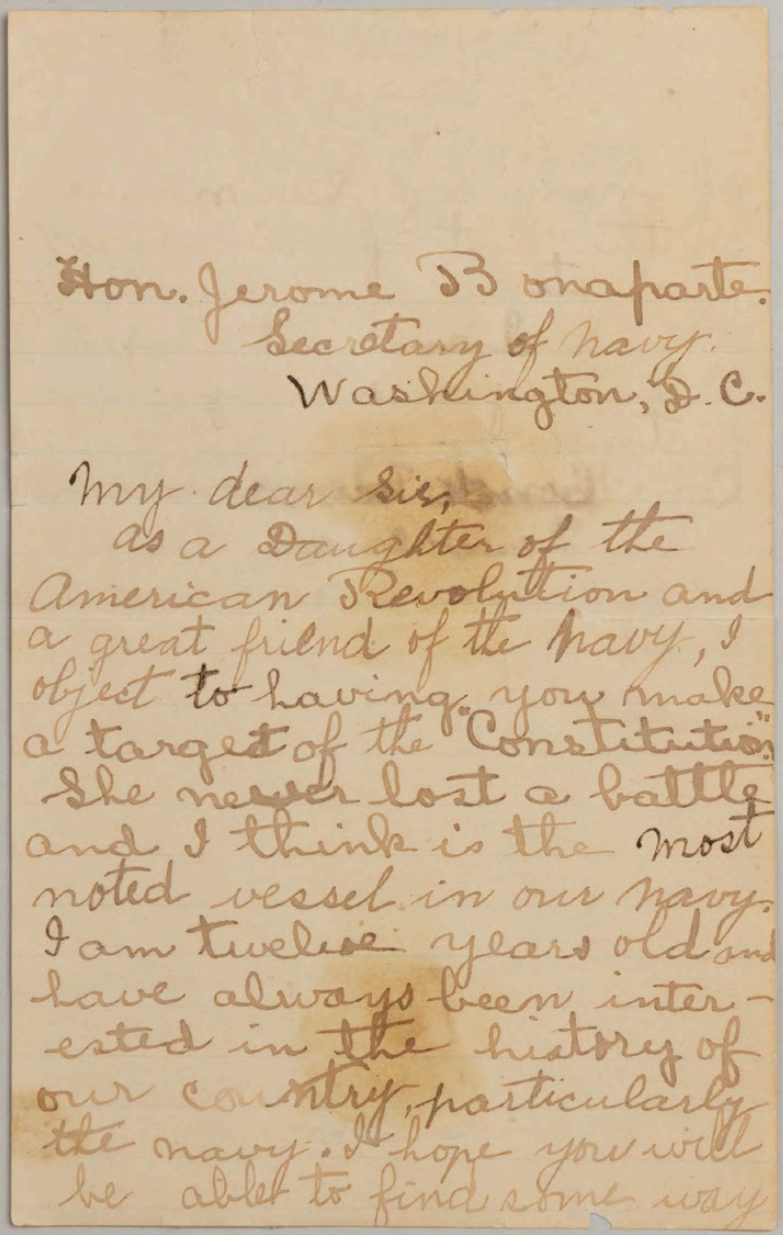
Submarine Force Museum

The interior of USS *Holland* was lit by this lantern when it was first put to sea as part of the fleet in 1900. Given that the atmosphere on board *Holland* and other early submarines was limited and easily fouled, and that these submarines were powered by gasoline engines, these lanterns were sealed to prevent them from exacerbating potentially explosive conditions on board. The advent of diesel-electric submarines less than a decade later would reduce the volatility of submarine atmospheres considerably.

Letter to Secretary of the Navy Objecting to Destroying USS *Constitution*

NHHC Detachment Boston

In his 1905 annual report, Secretary of the Navy Charles Bonaparte claimed that too much of the original USS *Constitution* had been replaced to consider it authentic. He recommended that the aged warship be "used as a target for some of the ships in our North Atlantic fleet and sunk by their fire." Twelve-year-old Constance Rosa Merrill wrote to Secretary Bonaparte on 9 December 1905, identifying herself as a "Daughter of the American Revolution" and "a great friend of the Navy." She objected "to having [Bonaparte] make a target of the *Constitution*." To emphasize her point, her postscript included Captain James Lawrence's War of 1812 immortal words, "Don't give up the ship." The Secretary replied on 11 December 1905, expressing the hope that "the name of the *Constitution* may be perpetuated in the American Navy." Bonaparte's target practice suggestion caused a nation-wide uproar. A *New York Times* editorial at the time noted "It does not in the least matter that most of the original timbers are gone out of [*Constitution*] . . . So long as a bit of the original wood . . . remains, . . . it should be built up to, and her venerated form preserved." Charles Bonaparte's 1906 annual report noted that "the preservation of the old ship [*Constitution*] was in progress."



Hon. Jerome B Bonaparte.
Secretary of Navy.
Washington, D. C.

My dear Sir,
as a Daughter of the American Revolution and a great friend of the Navy, I object to having you make a target of the "Constitution." She never lost a battle and I think is the most noted vessel in our navy. I am twelve years old and have always been interested in the history of our country, particularly the navy. I hope you will be able to find some way

of keeping her name on the list of our navy. I trust you will not think I am not impolite. I am yours very respectfully

Constance Merrall
Lawrence, N.Y.

P.S. "Don't give up the ship!"

C. R. M.

December 9th, 1905.

355.1

G-R

NAVY DEPARTMENT,

WASHINGTON.

December 11, 1905.

Dear Miss Merrall:

I am in receipt of your recent letter and thank you for writing to me. I join with you in the hope that the name of the CONSTITUTION may be perpetuated in the American Navy. The matter, however, is one that Congress will have to decide, and I have no doubt that its decision will be a wise one. I have taken pleasure in sending you under another cover a copy of my annual report, in which you will be able to read the recommendation I have made as to the CONSTITUTION.

Very truly yours,

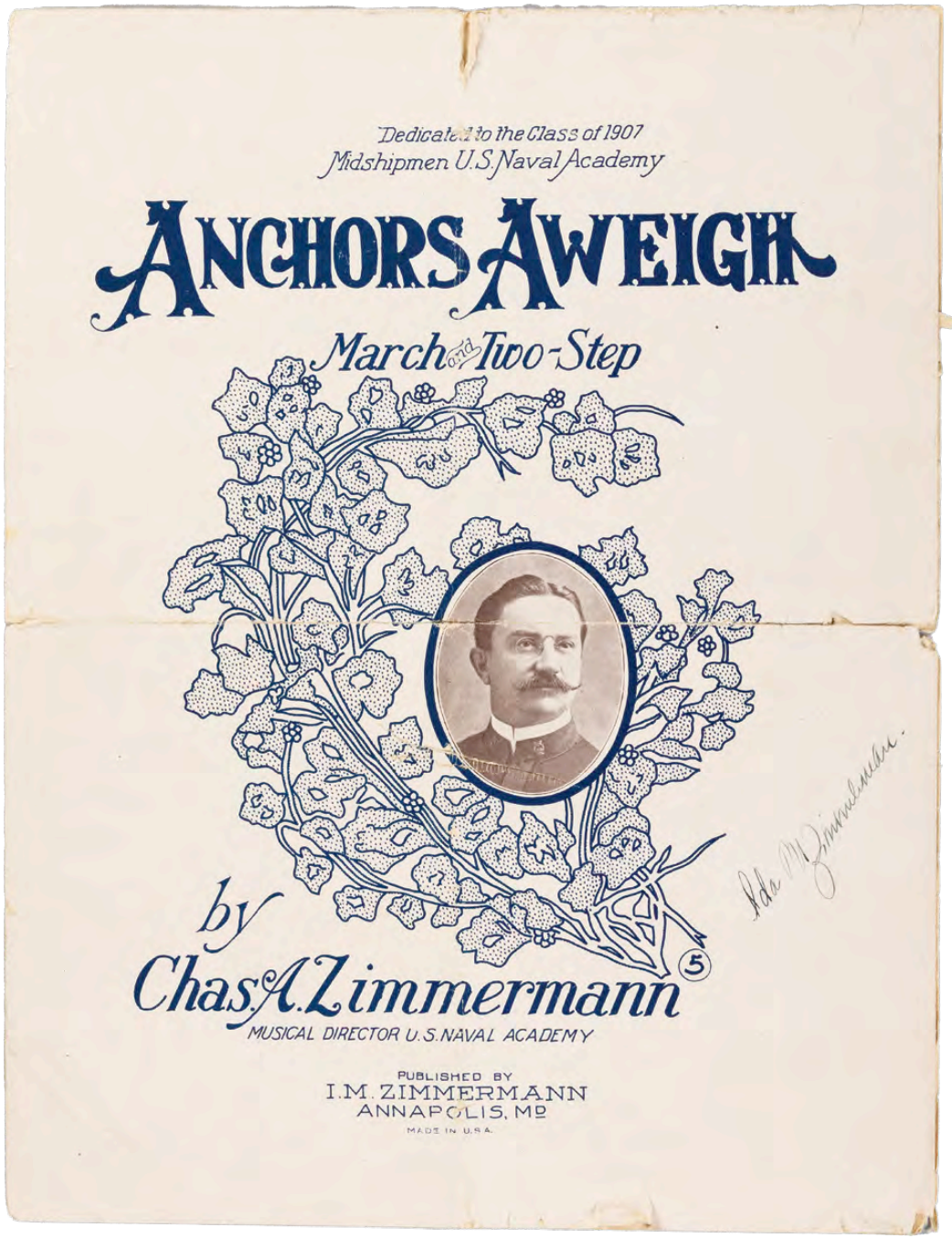
Charles J. Bonaparte,
Secretary.

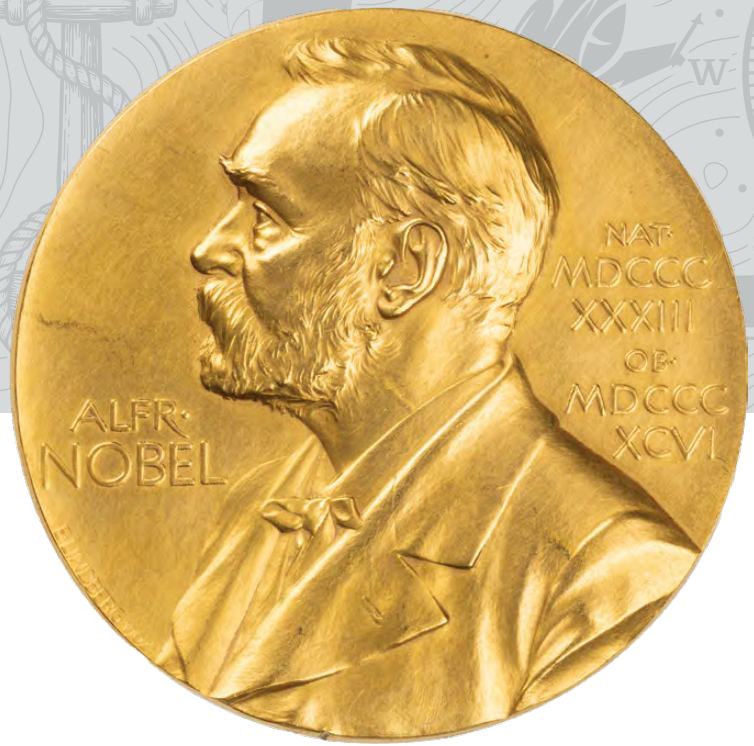
Miss Constance Rosa Merrall,
Lawrence, N.Y.

Sheet Music, "Anchors Aweigh"

U.S. Naval Academy Museum

"Anchors Aweigh" is the fight song of the U.S. Naval Academy (USNA) and the unofficial song of the Navy. The academy's bandmaster, Lieutenant Charles Zimmerman—also the USNA musical director from 1887 until his death in 1916—wrote the music in 1906. Midshipman Alfred Miles wrote the lyrics of the first two stanzas, and Midshipman Royal Lovell later added a third verse. Throughout much of his long career, Zimmerman was only rivaled in America as a composer of marches by John Philip Sousa. A graduate of the Peabody Conservatory of Music in Baltimore, Maryland, he began his tenure at Annapolis at the age of 26, and soon established a tradition of writing a new march for every graduating class. In return, the midshipmen presented him with a medal that he proudly wore on his uniform, making him look like the most decorated officer at the school. The song's first public performance took place at Philadelphia's Franklin Field in 1906 at the annual Army-Navy football game. With the new class song played by the Naval Academy Band and sung by midshipmen, Navy defeated Army 10–0, winning for the first time since 1900. The victory cemented "Anchors Aweigh" in Naval Academy lore.





Nobel Prize Medal of Albert A. Michelson

U.S. Naval Academy Museum

In 1869, Albert A. Michelson was appointed to the U.S. Naval Academy, where he excelled as a midshipman in the sciences and technical drawing. After graduating in 1873 and spending two years at sea, he returned in 1875 to become an instructor of physics and chemistry until 1879. While at Annapolis, he conducted his first experiments on the speed of light as part of a class demonstration in 1877. In 1879, after further refinements, Michelson correctly estimated the speed of light in a vacuum to be 186,380 miles per second, paving the way for Einstein's theories of general and special relativity. After two years of studies in Europe, Michelson resigned from the Navy and accepted a position as professor of physics at the Case School of Science in Cleveland, where he concentrated on developing an improved interferometer. In 1887, he and Edward Morley carried out the famous Michelson–Morley experiment, which failed to detect evidence of the existence of the luminiferous ether. In 1892, he became the first head of the physics department at the University of Chicago. In 1907, Michelson had the honor of being the first American to receive a Nobel Prize in Physics, signified by this gold medal. He also won the Copley Medal in 1907, the Henry Draper Medal in 1916, and the Gold Medal of the Royal Astronomical Society in 1923, all now displayed at the Naval Academy Museum.

Great White Fleet Handkerchief

Central Artifact Collection
Curator Branch

In 1907, President Theodore Roosevelt ordered the U.S. Navy to dispatch a fleet to circumnavigate the globe to demonstrate the naval power of the United States. The fleet sailed from December 1907 to February 1909, consisted of 16 battleships, traveled 43,000 miles, and visited six continents. All of their hulls painted white, they became known collectively as the Great White Fleet. Sailors acquired or made a variety of souvenirs during this voyage, displaying the ships they had served on or places they visited, including the silk handkerchief seen here. This handkerchief belonged to Chief Carpenter's Mate William Artz and shows multiple ships that cruised as part of the fleet.

U.S. Atlantic Fleet, also known as the Great White Fleet, steaming in formation in 1908.

Tattoo Kit

Puget Sound Navy Museum

This image was taken by Lt. Cdr. Charles Jacobs on USS *New Jersey* (BB 62) December 1944. (NARA)

This tattoo kit was used by sailor Frank Osberry (1885–1940) to tattoo his fellow shipmates while he served in the U.S. Navy from 1901 to 1906. While aboard Navy ships as a teenager and young man, he ran a side business tattooing fellow sailors. Osberry served aboard several ships, including USS *Pensacola* (1859), USS *Alert* (1875), USS *Independence* (1814), and USS *Marblehead* (1892). After his time in the Navy, he worked as a boilermaker and steeplejack in Pueblo, Colorado.

Staving off boredom, sailors doubled as amateur tattooists, passing the time by tattooing each other. Commenting on the popularity of body art amongst sailors, nineteenth-century New York City tattoo artist Samuel O'Reilly quipped, "A sailor without a tattoo is like a ship without grog: not seaworthy." Sailor tattoo artists also helped to spread this tradition around the country after several opened tattoo shops in port cities. Today, the U.S. Navy's tattoo policy is among the most lenient of the U.S. military branches, in large part due to this historical connection between sailors and tattoos.

Contained in a cigar box, Osberry's tattoo kit contains ink bottles, wooden needles, and examples of his art. These tattoos not only served as a way for sailors to express their identity but also as a form of camaraderie among those serving at sea. Sailors' tattoos often represented patriotic or nautical symbols, or commemorated achievements like distance sailed or ports visited.

Shipyard Badge

Puget Sound Navy Museum

Dina Olsen, a Norwegian immigrant, arrived in Seattle in the 1890s. Her husband, a commercial fisherman, died young. Dina had to support herself and found a job making tents and sleeping bags for prospectors who were headed to Alaska during the Klondike Gold Rush. In 1905, she was hired to work at Bremerton's Puget Sound Naval Shipyard and received this badge when she reported to work. She was part of the initial group of women to be employed at the shipyard. Dina put her sewing skills to use in the shipyard's sail loft, where she sewed cloth items like signal flags, gunpowder bags, and hammocks.

At the time, this would have been seen as suitable employment for women, who were not considered for most industrial job openings. Despite the gender restrictions of the era, Dina's success helped pave the way for more women to take on roles in the workforce. Today, all positions in the U.S. Navy, both civilian and active duty, are open to women. Dina retired in 1925 after 20 years of service.

Surveying Transit Owned by Rear Admiral Robert E. Peary

U.S. Navy Seabee Museum

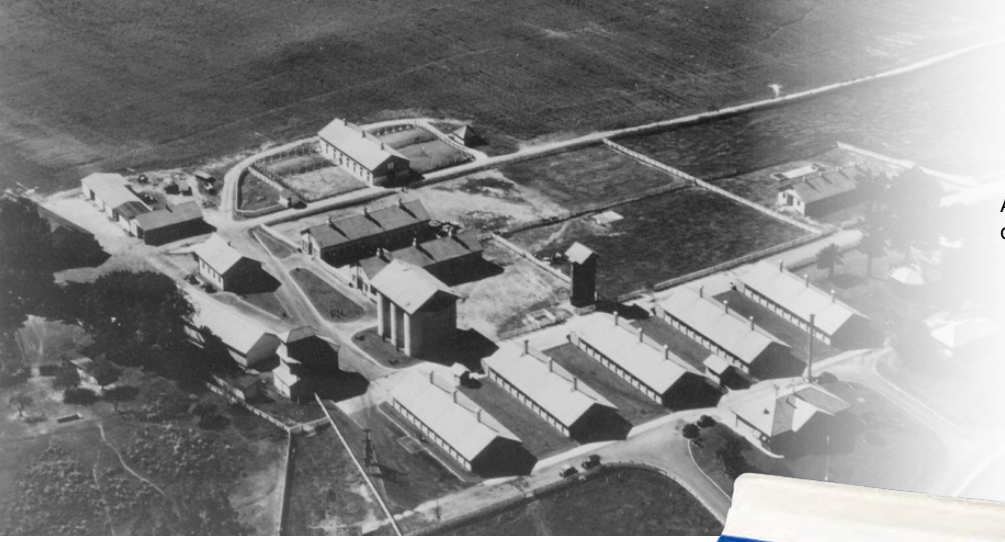
The most famous Civil Engineer Corps officer to date remains Rear Admiral Robert E. Peary. He was an extremely talented man of tremendous drive who achieved his great renown not as a civil engineer but as an Arctic explorer with the goal of reaching the North Pole. Like many of his fellow Civil Engineer Corps officers, he was involved in the interoceanic canal project. Later in life, he became deeply involved in aviation and worked to promote the future of this new means of transportation.

Rear Admiral Peary's accomplishments as an Arctic explorer go far beyond his 1909 expedition to reach the North Pole. Having been involved in Arctic exploration for almost a quarter of a century, he developed highly efficient methods of exploration, utilizing small parties as well as indigenous equipment, dress, and modes of travel. His trips to Greenland resulted in a complete revision of the maps of a large portion of the island. In addition, the sciences of meteorology and hydrography greatly benefitted from his observations in Greenland and on the Arctic icecap. This surveying transit and level made of brass, steel, and glass was owned and used by Peary during his arctic explorations.

Spokane Naval Trophy

Central Artifact Collection
Curator Branch

In 1907, the Chamber of Commerce from the City of Spokane, Washington, and Spokane Spanish-American War veterans gifted the Navy a 400-ounce sterling silver trophy. The Spokane Naval Trophy became an official Navy award and was awarded annually from 1908–40 to the cruiser or battleship with the highest marksmanship scores. The first recipient was USS *Tennessee* (Armored Cruiser No. 10), with the ship's name inscribed on the trophy. The award was deactivated in 1940 and reactivated in 1984 with updated criteria. Currently, it is awarded to Pacific Fleet ships that demonstrate the highest levels of overall proficiency in combat systems, readiness, and warfare operations. The Atlantic Fleet's comparable award is the Battenburg Cup. This trophy is the earliest accessioned, though not oldest, artifact in the Navy's Central Artifact Collection under the purview of the NHHC Curator Branch.



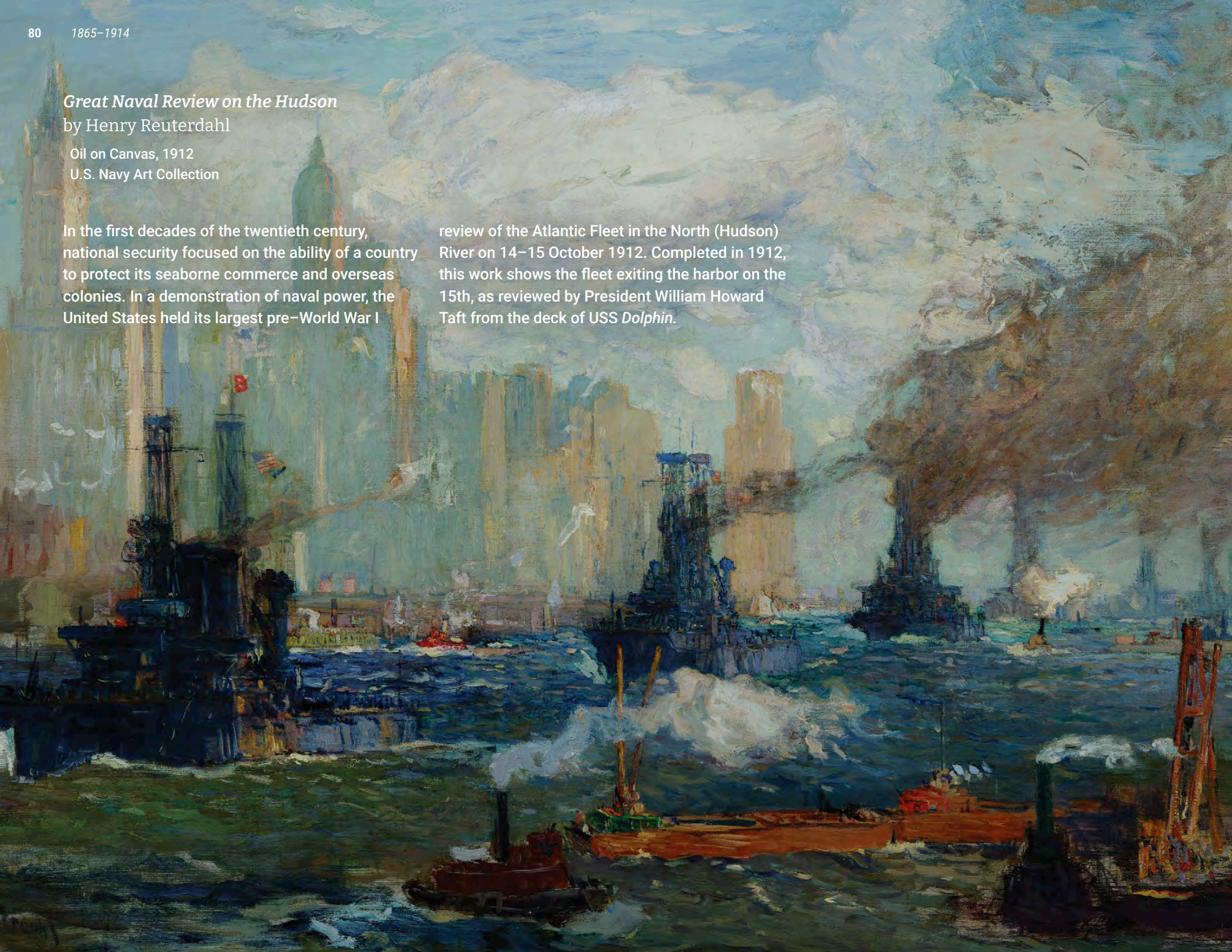
Aerial view of the Naval Academy's dairy farm, c. 1930s.

U.S. Naval Academy Milk Carton

Central Artifact Collection
Curator Branch

In 1910, an outbreak of typhoid fever occurred at the U.S. Naval Academy. The outbreak was traced back to unprocessed milk served at the midshipmen's mess. In an effort to provide a secure supply of milk for the midshipmen, the Navy acquired property in nearby Anne Arundel County, Maryland, and, in 1911, established a dairy farm. The farm produced more than 1,000 gallons of milk daily. For most of the twentieth century, it was the Naval Academy's primary source of dairy. As commercial processing of milk became reliable, there was no longer a need for a dedicated source of dairy and, in 1997, the Navy ceased farming operations.

If an upper-class midshipman were to ask a plebe, "How's the Cow?" the appropriate response was, "Sir, she walks, she talks, she's full of chalk. The lacteal fluid extracted from the female of the bovine species is highly prolific to the (approximate number of glasses of milk remaining in cartons) nth degree!" Failure to provide the appropriate response would likely result in a demerit.



Great Naval Review on the Hudson
by Henry Reuterdahl

Oil on Canvas, 1912
U.S. Navy Art Collection

In the first decades of the twentieth century, national security focused on the ability of a country to protect its seaborne commerce and overseas colonies. In a demonstration of naval power, the United States held its largest pre–World War I review of the Atlantic Fleet in the North (Hudson) River on 14–15 October 1912. Completed in 1912, this work shows the fleet exiting the harbor on the 15th, as reviewed by President William Howard Taft from the deck of USS *Dolphin*.

1896
1897
1899
1900
1901
1902
1903
1904

Spanish-American War, *1898*

From 1895 to 1898, Cuban revolutionaries attempted to break free of Spanish colonial rule. American interest in the situation increased as newspapers, pressed to increase circulation, sensationalized the situation, which peaked with the sudden explosion of USS *Maine* in Cuba's Havana Harbor on 15 February 1898. Public sentiment blamed the explosion on Spain. A naval blockade of Cuba was ordered by President William McKinley on 21 April. Spain declared war on the United States on 24 April, with the United States responding in kind.

On 1 May, Commodore George Dewey's Asiatic Squadron destroyed an entire Spanish squadron at the Battle of Manila Bay in just six hours. This action elevated Dewey to celebrity status among the American public and resulted in a promotion to rear admiral.

In Cuba, the Navy transported troops and supplies, supporting Marine Corps' landings in Guantanamo Bay on 10 June and Army landings at Daiquiri on 22 June. The Navy's North Atlantic and Flying Squadrons blocked the Spanish fleet in Santiago Harbor. On 3 July, while attempting to escape the blockade, the Spanish fleet left the harbor and was completely destroyed by the U.S. Navy. The Spanish government did not commit any additional naval assets to this area and quickly approached the U.S. government for a cessation of hostilities, which occurred on 12 August and were followed by the Treaty of Paris on 10 December, formally ending the war. The treaty gave the United States the Spanish colonies of Puerto Rico, Guam, and the Philippines.

The U.S. Navy's decisive actions and victories paved the way for a speedy victory over Spain and solidified the country's presence and involvement in global affairs.

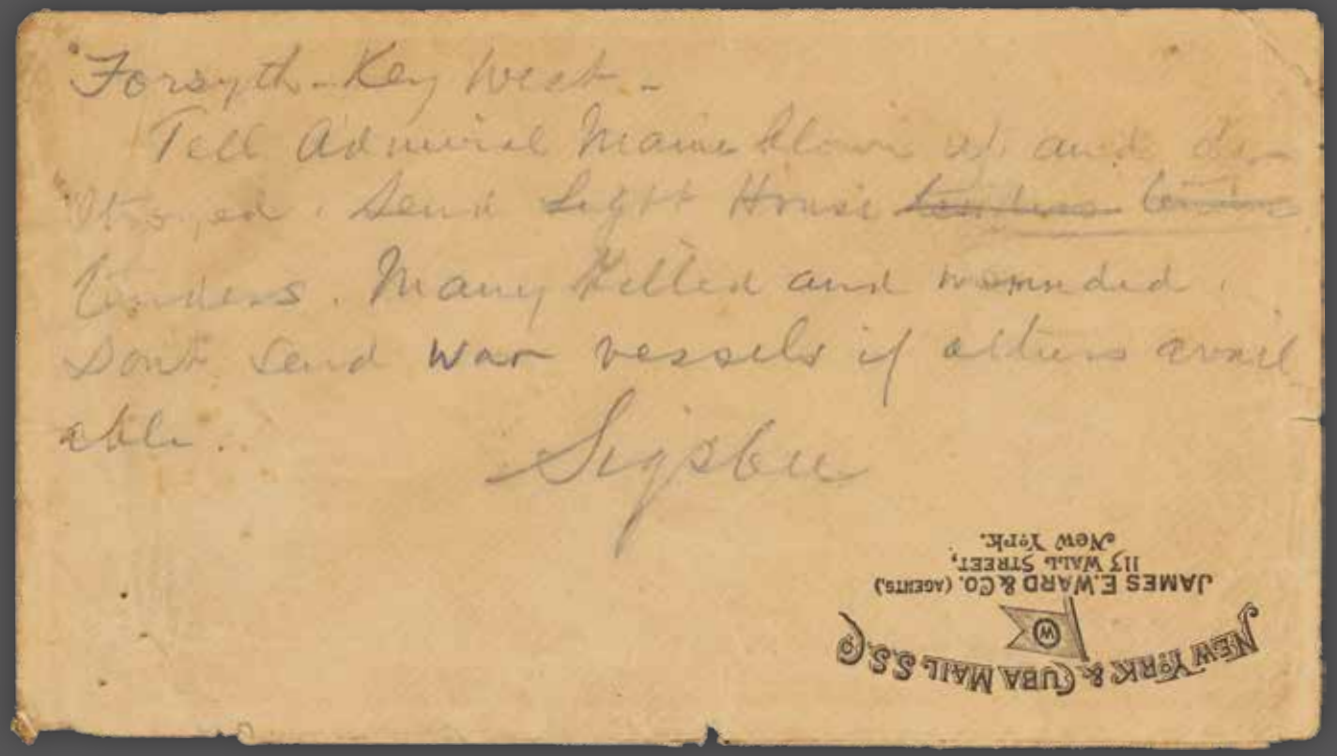
Six-Inch, 30-Caliber Gun

USS Maine

Central Artifact Collection
Curator Branch

On 15 February 1898, USS *Maine* (1890) unexpectedly exploded in Havana Harbor, in Cuba, killing more than 250 sailors and marines. With U.S. relations with Spain already strained, the loss of the *Maine* exacerbated that relationship. Spurred by the "yellow journalism" of the time, newspapers focused on sensationalism and not facts, and quickly published what became a nationalistic rallying cry: "Remember the *Maine,* to Hell with Spain!"

In the eyes of many Americans the blame for the loss of *Maine* and its crew was firmly placed on Spain. Two months later in April 1898, the United States and Spain were officially at war. With naval victories in Manila Bay and Santiago de Cuba, the war was over quickly, with a ceasefire signed on 12 August. The war highlighted the United States' entry into global affairs. This gun was recovered in February 1912 during salvage operations of the ship. *Maine* was raised and later re-sunk three miles away in 3,600 feet of water.



Handwritten Telegram of Captain Charles Sigsbee

U.S. Naval Academy Museum

USS *Maine* had been anchored off Havana, Cuba, for nearly a month, ostensibly there to protect U.S. interests after a rebellion against Spanish rule had broken out on the island. Fortunately, the ship's commanding officer, Captain Charles Sigsbee was ashore when the explosion occurred. He immediately composed this telegram and sent it to his superiors in Washington, informing authorities there of the explosion. Without directly placing the blame on Spain, a U.S. naval court of inquiry ruled that the ship had been blown up by a mine. The biggest U.S. newspapers, already adept at practicing sensationalist "yellow journalism," took advantage of the horrific loss of life in an effort to whip up public sentiment in favor of armed intervention.

Soon after, Congress declared war, formally starting the short-lived Spanish-American War of 1898. The United States quickly defeated Spanish forces in and around Cuba and the Philippines, and in August, an armistice halted the fighting. On 12 December 1898, the United States and Spain signed the Treaty of Paris, officially ending the war and granting the United States the territories of Puerto Rico, Guam, and the Philippines. In 1976, American naval investigators concluded that the *Maine* explosion was likely caused by spontaneous combustion in a powder magazine and not by a Spanish act of sabotage.

Battle of Manila Bay Medal

Central Artifact Collection
Curator Branch

The Battle of Manila Bay Medal was issued to personnel present on board those Navy ships and the U.S. Revenue Cutter *McCulloch* at the Battle of Manila Bay on 1 May 1898. The obverse of the medal is a bust of Admiral of the Navy George Dewey, who commanded the American squadron during the attack. Akin to the West Indies Naval Campaign Medal, it became known as the Dewey Medal because of this likeness of Dewey. This medal was awarded to Coxswain William McCartney, who was assigned to USS *Concord* during the battle. The name of the recipient is engraved on the rim of the medal.

West Indies Naval Campaign Medal

Central Artifact Collection
Curator Branch

The West Indies Campaign Medal was awarded to those men of the U.S. Navy and Marine Corps who had participated in naval engagements in the waters of the West Indies during the Spanish-American War. Also known as the Sampson Medal, the obverse of the medal has a bust of Rear Admiral William Sampson, who commanded the American fleet and led a victorious naval engagement against the Royal Spanish Navy at Santiago de Cuba on 3 July 1898. The name of the recipient is engraved on the rim of the medal, and the ship they served on included on the top bar of the brooch.

This medal was awarded to Fireman First Class James Mooney, who was assigned to USS *Texas* (1892). He participated in multiple encounters with Spanish forces while on *Texas,* as illustrated by the multiple engagement bars on the ribbon. Mooney was also assigned to USS *Boston* (1884) during the Battle of Manila Bay and would have been authorized to receive the Battle of Manila Bay medal, also known as the Dewey Medal.

Commemorative Medal and Sword

Central Artifact Collection
Curator Branch

After his decisive victory in May 1898 at the Battle of Manila Bay, Commodore George Dewey became an American hero. He was quickly promoted to rear admiral and by an act of Congress, he was commissioned as Admiral of the Navy, superior to a four-star admiral, and the only person to have ever held this rank. On 3 October 1899, in Washington, DC, a massive event was organized, honoring Dewey. This sword and scabbard, elaborately decorated with diamonds, was manufactured by Tiffany and Co., and was presented to Dewey on the steps of the Capitol by President William McKinley during on this occasion. This medal, depicting a bust of Dewey, was also presented to him during the event, on behalf of the city of Washington, DC.

Bible

Central Artifact Collection
Curator Branch

During the Spanish-American War, one of the U.S. Navy's major combat actions, and victories, was against the Spanish fleet at the battle of Santiago de Cuba. During this engagement, the U.S Navy's North Atlantic squadron—commanded by Rear Admiral William Sampson—and the Navy's Flying Squadron—commanded by Commodore Winfield Schley—engaged the Spanish fleet commanded by Admiral Pascual Cervera y Topete. Cervera was ordered to run the U.S. blockade, and on 3 July 1898, the Spanish ships tried and failed to escape the harbor. As Sampson was ashore at the time, Schley was in charge of the engagement, which resulted in the destruction of the Spanish fleet.

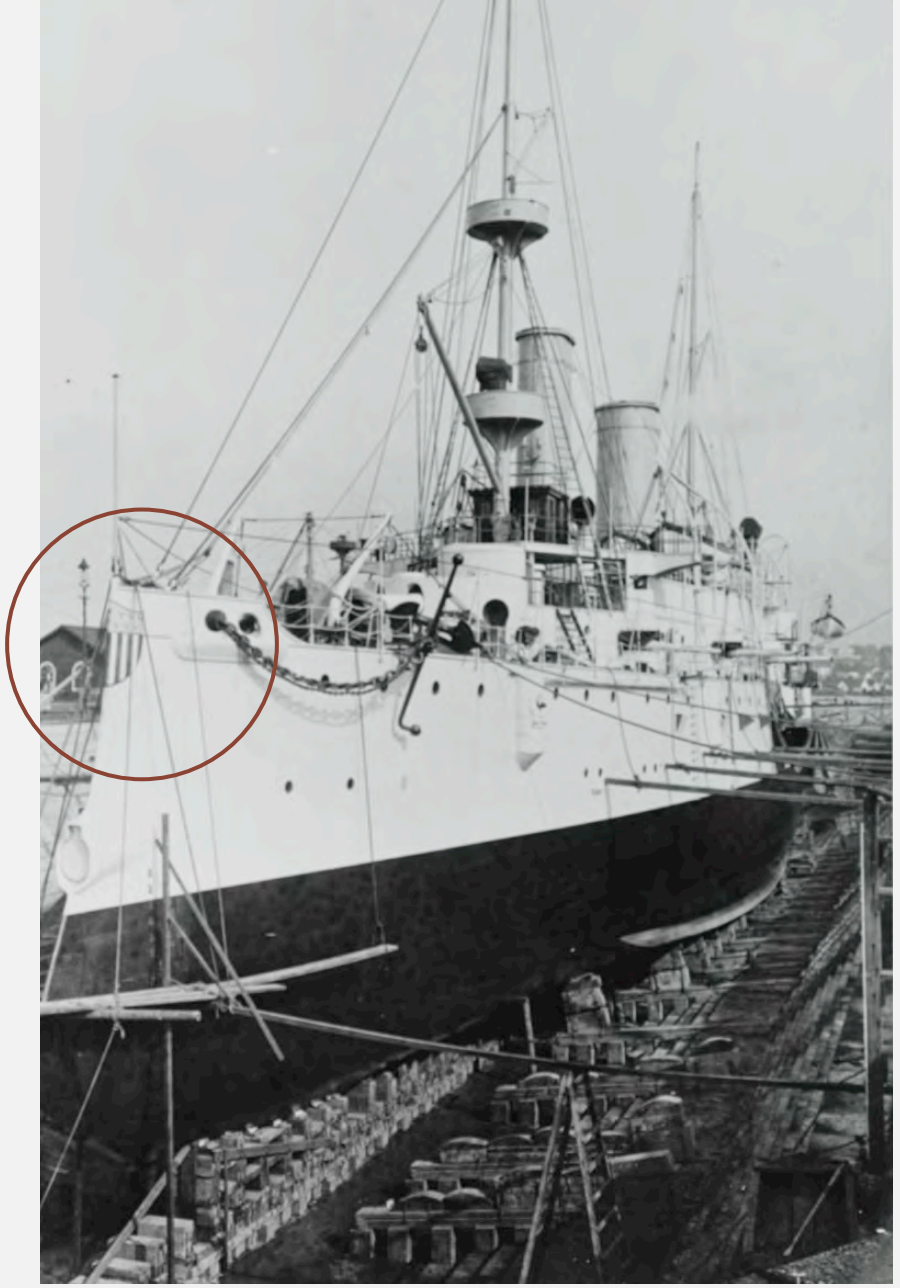
In the days leading to the battle, Schley made several decisions that delayed the Flying Squadron's arrival to Santiago, and during the battle he ordered his flagship *Brooklyn* east, away from the Spanish vessels trying to escape to the west. These actions, coupled with supporters of both Sampson and Schley advocating for "their man," and the publication of a book intended as a Naval Academy textbook that described Schley as "deliberately turning tail and running away" during the battle, forced Schley into action. He requested a court of inquiry to clear his name.

This Bible was used during the court of inquiry, held at the Washington Navy Yard, presided over by Admiral of the Navy George Dewey, and contains the signatures of those present. The Navy and public followed this inquiry intently as it became a forum that publicly exposed the internal Navy divisions between these two celebrated officers. The court found Schley's actions demonstrated an indecisive nature but cleared him of allegations of cowardice.

Bow Ornament
USS *Olympia*

Central Artifact Collection
Curator Branch

During the age of sail, it was common for ships to have a decorative figure, often a woman or mermaid, at the bow of the ship. These figureheads, believed to bring good luck, were often related to the ship's namesake, country of origin, or used as an expression of power and might. As wooden ships made way for iron and steel, ship design changed, and the use of figureheads diminished. However, many early steel ships in the Navy incorporated a bow ornament, often with an eagle or the red, white, and blue colors signifying a ship of the U.S. Navy. This bow ornament was on USS *Olympia,* the ship best known as the flagship of Commodore George Dewey during the Spanish-American War in 1898. After serving in this conflict, the ship later served in World War I and in 1921 was selected to transport the remains of the World War I Unknown Soldier from France to the United States.



USS *Olympia,* in dry dock at Mare Island Navy Yard, c. 1895.

Tattooing Needle and Tapper

National Museum of the American Sailor

Tattoos have been part of the culture of the U.S. Navy since the Continental Congress established it in 1775. American sailors picked up the practice of tattooing from British sailors. Practicing their amateur tattoo skills on their own bodies and those of their shipmates helped sailors pass the time during long voyages at sea. Prior to the 1891 invention of the electric tattoo machine, tattooists used a simple stick and poke technique. This slow and painful technique consisted of the artist dipping needles into ink and moving their hand rhythmically up and down to puncture the skin and insert the ink. Aboard ship, sailors often used easily available materials for their art, including sailmaker's needles, India ink, laundry bluing, and gunpowder.

Navy sailors' tattoo designs are a physical demonstration of their pride in being a Navy sailor and their patriotism for their country. Traditional popular designs include nautical and patriotic themes such as ships, anchors, American flags, and eagles. Pigs and chickens tattooed onto each foot are also common as well. Prior to refrigeration, ships often carried pigs and chickens on board in wooden crates. During a shipwreck, these farm animals were sometimes the only survivors, floating to shore in their crates. For this reason, sailors came to view pigs and chickens as bringing good luck against drowning. This tattooing needle and tapper are part of a tattoo kit that belonged to sailor Coridon Laverne Wheeler—c. 1898—who used the items during the Spanish-American War and World War I.

1915
1916

World War I, *1917–18*

1919
1920
1921
1922
1923
1924

Though often overlooked, the United States Navy's efforts during World War I were significant. The scale and complexity of modern naval warfare required the Navy to adapt accordingly. It engaged not only in traditional missions at sea but also contributed to an array of operations on land and in the air. These efforts, in conjunction with those of the British and the French, helped to secure victory over Germany and the Central Powers.

After the war, Secretary of the Navy Josephus Daniels wrote that the convoying of Army and Marine Corps units across the Atlantic was "the most successful operation of the war." While true, it was not the Navy's only successful undertaking. In just over 19 months of wartime service, the Navy engaged in organizational innovation, technical improvement, and comparative evaluation, to meet multiple mission requirements with the ultimate goal of ensuring victory.

The Navy employed "hunter-killer" submarines against U-boats; built and operated long-range railway batteries to support ground operations; and constructed and operated shore-based aviation facilities for antisubmarine warfare patrols and strategic bombing of German targets. Navy corpsmen and surgeons supported the U.S. Marines in the trenches. To further meet the demands of total war, Secretary Daniels authorized the first large-scale mobilization of women, deploying the Nurse Corps and yeomen (F) to support the fleet. These and the associated development of recruiting, training, and logistics were precedents that would help crew and sustain the fleet and shore establishments to meet even greater demands in another world war.

The artifacts depicted in this chapter provide a glimpse of the multi-faceted combat and support operations conducted during World War I. In meeting unprecedented demands, the U.S. Navy emerged not only as a more technically sophisticated naval force but also as a more professionally proficient and capable one. Its efforts proved consequential beyond the war years, contributing to the United States' subsequent emergence as the world's preeminent sea power during the twentieth century.

Six-inch gun on the deck of the SS *Mongolia.* Lt. Bruce Ware and Capt. Emory Rice, *far right,* of the U.S. Naval Reserve Force are identified in the original caption.

Six-Inch/40-Caliber Gun

SS Mongolia

Central Artifact Collection
Curator Branch

Launched in 1903, SS *Mongolia* was a merchant ship and part of the Atlantic Transport Company fleet. Shortly before the United States entered World War I, President Woodrow Wilson believed it prudent to arm merchant vessels and in 1917, *Mongolia* received a complement of three 6-inch guns. On 19 April 1917, *Mongolia* was attacked by a U-boat. Returning fire, *Mongolia* struck the conning tower of the U-boat, damaging it and its periscope, forcing the U-boat to submerge. This is the gun that fired the first American shots of World War I. *Mongolia* was later commissioned as a U.S. Navy ship on 27 April 1918, serving as a transport during the rest of World War I. It was decommissioned on 11 September 1919 and returned to its original owner.

Don't Read American History–Make It
by James Montgomery Flagg

Oil on Canvas, c. 1918
U.S. Navy Art Collection

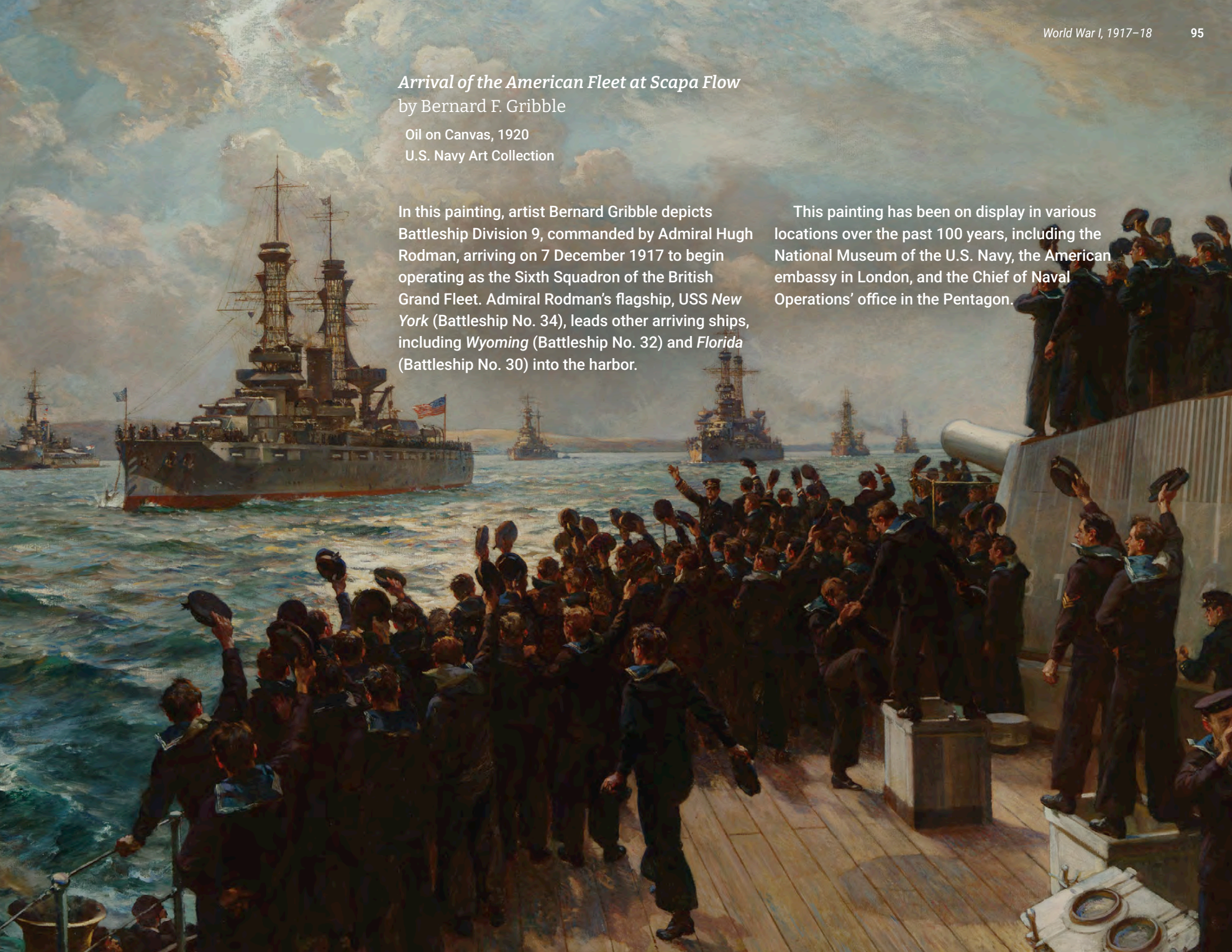
Many famous American artists were at the peak of their productivity at the time of World War I and contributed their skill to the war effort. James Montgomery Flagg became one of the foremost among them after he created the Uncle Sam "I Want You" recruiting poster for the U.S. Army. For Navy recruiting, he created this image in which a sailor encourages a man to stop reading a newspaper and join in the action by appealing to patriotism, represented by the allegorical figure of "Columbia." The Navy printed 25,000 of these posters in the first 12 months of the war.

NHHC Senior Conservator Yoonjo Lee executing surface cleaning of the ensign.

Boat Ensign
USS *Fanning*

Central Artifact Collection
Curator Branch

Commissioned on 12 June 1912, USS *Fanning* (Destroyer No. 37) was part of the U.S. Navy's destroyer fleet. At the outbreak of World War I, it was assigned convoy protection duty. On 17 November 1917, while engaged in convoy escort duty off the southern coast of Ireland, crew from *Fanning* sighted a periscope from the German submarine *U-58*. *Fanning* quickly engaged by dropping multiple depth charges, resulting in *U-58* surfacing and soon after surrendering. This ensign would have been used on one of the small boats attached to *Fanning* and was present for this engagement. The sinking of *U-58* represented the first U-boat sunk by the U.S. Navy during World War I.



Arrival of the American Fleet at Scapa Flow
by Bernard F. Gribble

Oil on Canvas, 1920
U.S. Navy Art Collection

In this painting, artist Bernard Gribble depicts Battleship Division 9, commanded by Admiral Hugh Rodman, arriving on 7 December 1917 to begin operating as the Sixth Squadron of the British Grand Fleet. Admiral Rodman's flagship, USS *New York* (Battleship No. 34), leads other arriving ships, including *Wyoming* (Battleship No. 32) and *Florida* (Battleship No. 30) into the harbor.

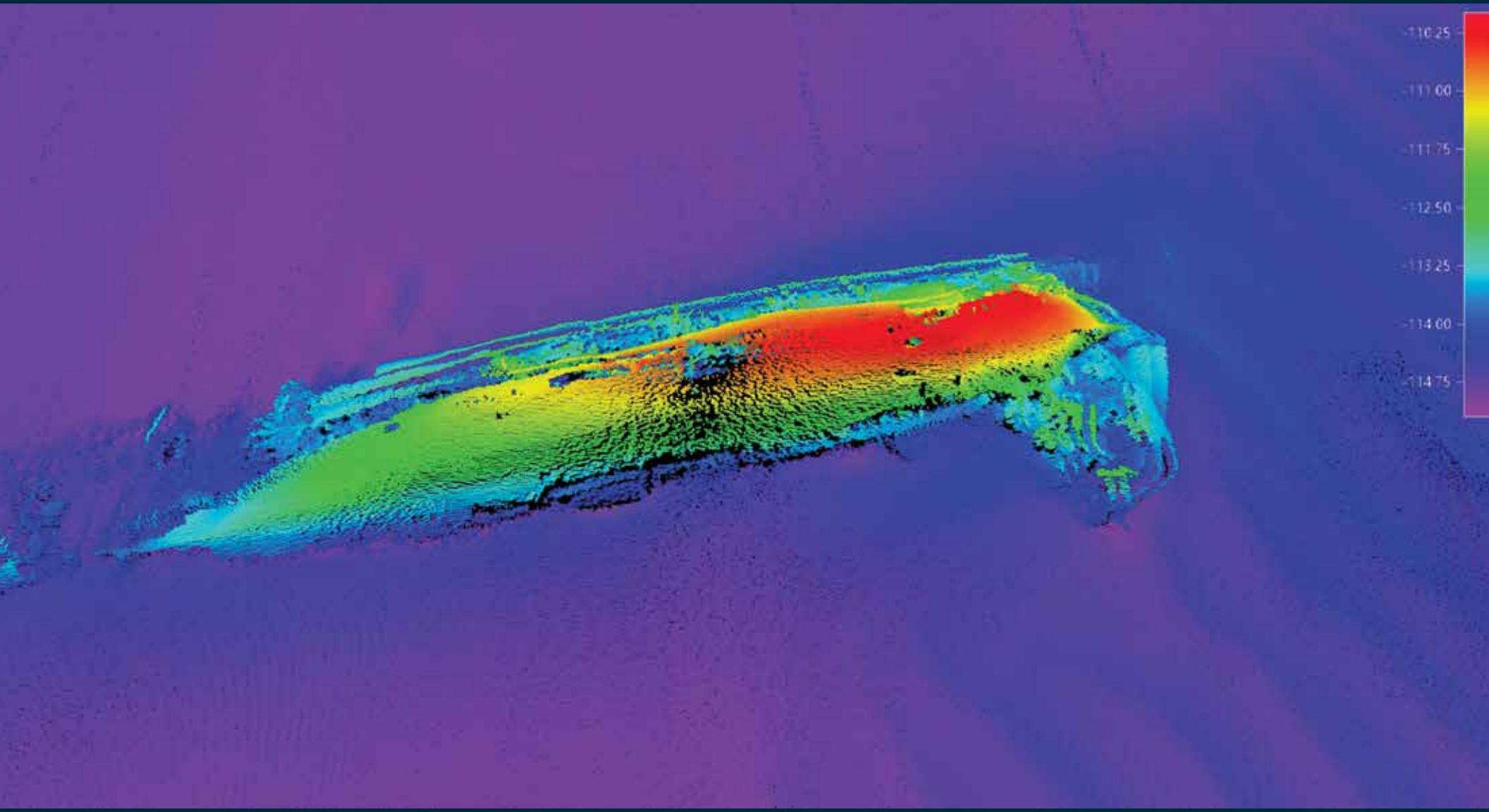
This painting has been on display in various locations over the past 100 years, including the National Museum of the U.S. Navy, the American embassy in London, and the Chief of Naval Operations' office in the Pentagon.

USS *Jacob Jones*

Underwater Archaeology Branch

Launched in 1915 as a *Tucker*–class destroyer, *Jacob Jones* (Destroyer No. 61) served during World War I escorting convoys in waters off the United Kingdom, while also performing several notable rescue operations. On 6 December 1917, *Jacob Jones* was struck by a torpedo launched from *U-53*, sinking southeast of the Isles of Scilly with the loss of 64 men. The vessel was the first U.S. destroyer ever to be lost to enemy action.

In 2022, a technical dive team from the United Kingdom located the wreck and informed the Naval History and Heritage Command of their discovery. Over the course of the next two years, the command partnered with private sector partners Wessex Archaeology and Gray & Pape, the UK's National Oceanography Centre, and the UK Ministry of Defence's Salvage and Maritime Operations team to document the wreck site using an autonomous underwater vehicle and a remotely operated vehicle. The wreck, appearing largely undisturbed since its sinking, shows significant damage to its stern, something consistent with the historical accounts of its loss. The partnership also resulted in the recovery of the vessel's bell, which was handed over to Vice Chief of Naval Operations James W. Kilby during a ceremony facilitated by the U.S. embassy in London.



Multibeam data collected as part of a 2023 survey on the wreck of USS *Jacob Jones* by the UK National Oceanography Centre and further processed by Wessex Archaeology. Multibeam sonar uses multiple sonar beams to create an accurate map of the seafloor, or any objects resting on the seafloor and has become an invaluable tool in the discovery, mapping, and documentation of ship and aircraft wrecks. (UK National Oceanography Centre and Wessex Archaeology)

John MacKenzie Securing Depth Charge Aboard USS Remlik

by James Daugherty

Oil on Canvas, 1920
U.S. Navy Art Collection

On 17 December 1917, USS *Remlik* (S.P. 157) was patrolling off the coast of France in the Bay of Biscay. The ship encountered a heavy gale while chasing a German submarine. The high winds and waves caused a depth charge to break loose and roll across the deck. Chief Boatswain's Mate John MacKenzie rushed forward and attempted to secure the live depth charge. After several attempts, he was able to upright the depth charge and hold it in place until other members of the crew were able to come forward and lash it securely. His actions prevented the depth charge from detonating, which would have likely destroyed the ship and potentially cost the crew their lives. For his actions on the *Remlik,* MacKenzie was awarded the Medal of Honor on 8 May 1918.

Artist James Daugherty captured this heroic act in this oil painting. Daugherty worked for the U.S. government as a civilian artist during World War I, designing propaganda posters and camouflage for ships.

Fur-Lined Soft Aviator's Helmet

National Naval Aviation Museum

Helmets of the World War I era were varied in style and origin. This fur-lined soft helmet included a face shield to ward off the cold experienced by flying in an open-cockpit airplane. This helmet belonged to Ensign Erl C. B. Gould, a member of the First Yale Unit, a group of college students who, before American entry into World War I, financed the purchase of an aircraft and conducted their own flight instruction. They formed the nucleus of the Naval Reserve Flying Corps that served in World War I.

Yeoman (F) Class at Newport Training Station

Photograph, c.1918
Naval War College Museum

The Naval Reserve Act of 1916 authorized increased recruiting to meet wartime needs. Since the act did not specify that new recruits had to be men, the Secretary of the Navy directed that women be enlisted as well. Those women who enlisted and became yeoman were referred to as "yeomanettes." Most performed clerical work, but others served as translators, mechanics, cryptographers, telephone operators, camouflage painters, and recruiting agents.

Yeoman (F) Uniform

Puget Sound Navy Museum

World War I saw a significant shift in the Navy's enlisted forces. Wartime saw the first enlistment of women in the U.S. Navy in capacities other than nurses. As sailors left for duty on board ships, the Navy solved a looming manpower shortage by allowing women to enlist in the Navy as yeomen. Nicknamed "yeomanettes," about 12,000 women enlisted to work in the Navy's shore-based offices during the war.

Although it was initially assumed that the yeomanettes would only perform office duties, the need for workers was so great that they also ended up working as mechanics, truck drivers, camouflage designers, cryptographers, telephone operators, translators, munitions makers, and much more. Men and women in the same rank earned equal pay, a rarity in the civilian sector at that time.

Most of the yeomanettes were stationed in Washington, DC, where the majority of the Navy's offices were located. Others served in France, Guam, and Hawaii, among other locations. This uniform belonged to Gertrude McGowan Madden, who enlisted in the U.S. Navy when she turned 18. While wearing this uniform, she worked as a secretary to the chief draftsman at the Puget Sound Naval Shipyard in Bremerton, Washington. She was one of 200 enlisted women who served in the state of Washington during the war.

Women Rivet Heaters and Passers on Ship Construction Work

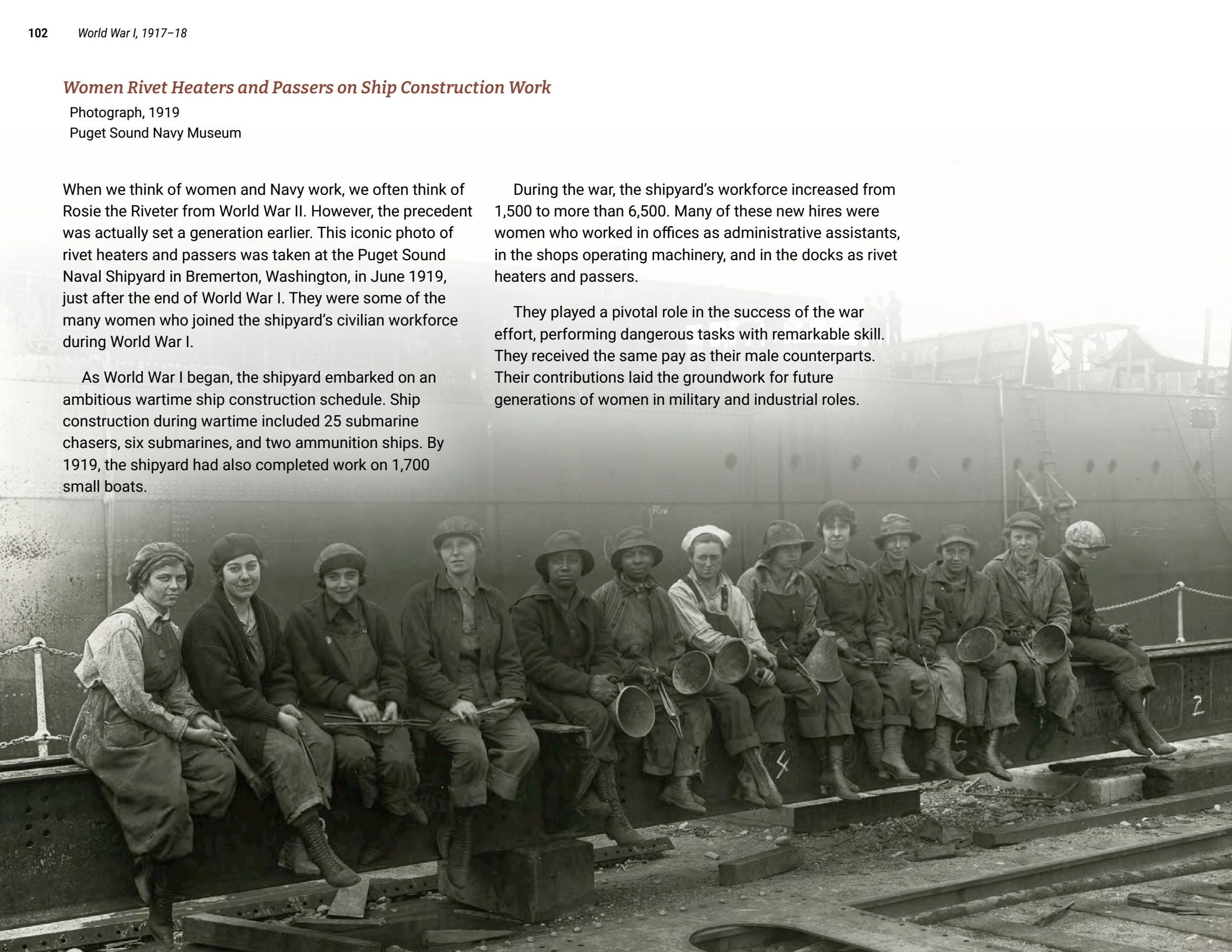
Photograph, 1919
Puget Sound Navy Museum

When we think of women and Navy work, we often think of Rosie the Riveter from World War II. However, the precedent was actually set a generation earlier. This iconic photo of rivet heaters and passers was taken at the Puget Sound Naval Shipyard in Bremerton, Washington, in June 1919, just after the end of World War I. They were some of the many women who joined the shipyard's civilian workforce during World War I.

As World War I began, the shipyard embarked on an ambitious wartime ship construction schedule. Ship construction during wartime included 25 submarine chasers, six submarines, and two ammunition ships. By 1919, the shipyard had also completed work on 1,700 small boats.

During the war, the shipyard's workforce increased from 1,500 to more than 6,500. Many of these new hires were women who worked in offices as administrative assistants, in the shops operating machinery, and in the docks as rivet heaters and passers.

They played a pivotal role in the success of the war effort, performing dangerous tasks with remarkable skill. They received the same pay as their male counterparts. Their contributions laid the groundwork for future generations of women in military and industrial roles.



1917
1918
1942
1943
1944
1945
1946
1947

1919–41

As the only constant is a state of change, this is how the world and the U.S. Navy found itself after the end of World War I. Global powers and alliances realigned to the new political landscape, and the Navy did the same. After the inevitable postwar demobilization and a speedy reduction in force, the next two decades brought about incredible change in the U.S. Navy's capabilities and fleet composition. During World War I, U-boats demonstrated the effectiveness of undersea warfare against military and commercial targets, disrupting commerce and instilling fear in Allied navies. U.S. Navy submarine research and development progressed during the interwar period, providing the building blocks of a true warfare-capable undersea service by the outbreak of World War II.

The Washington Navy Treaty of 1922, an attempt to prevent a naval arms race, and subsequent naval treaties heavily influenced the U.S. Navy's fleet composition. With greater range than battleships, aircraft carriers became the capitol ships of the Navy. As with the move from sail to steam, the transition from coal to diesel as a fuel source provided greater range and flexibility to the Navy's fleet. Though carrier aviation and undersea warfare became core components of the post–World War I Navy, surface fleet ship evolution was not static. Ships became electrified and naval gunnery evolved to include the 16-inch/50-caliber Mark 7 naval gun, which could fire a 2,000-pound shell more than 25 miles.

In addition to the focus on wartime readiness and technological evolution, the Navy conducted a variety of peacetime duties. Exploration of the Antarctic by Rear Admiral Robert Byrd in 1926, 1934–35, and 1939–40, humanitarian aid to Japan after the Great Kanto Earthquake in September 1923, and the transportation of the remains of the World War I's Unknown Soldier on USS *Olympia* in 1921 all demonstrated the Navy's flexibility and ability to rise to a variety of situations. That ability was further tested after the Japanese surprise attack on Pearl Harbor on 7 December 1941, bringing the United States into its second global war.

Navy Curtiss NC-4 Flying Boat Wristwatch

National Naval Aviation Museum

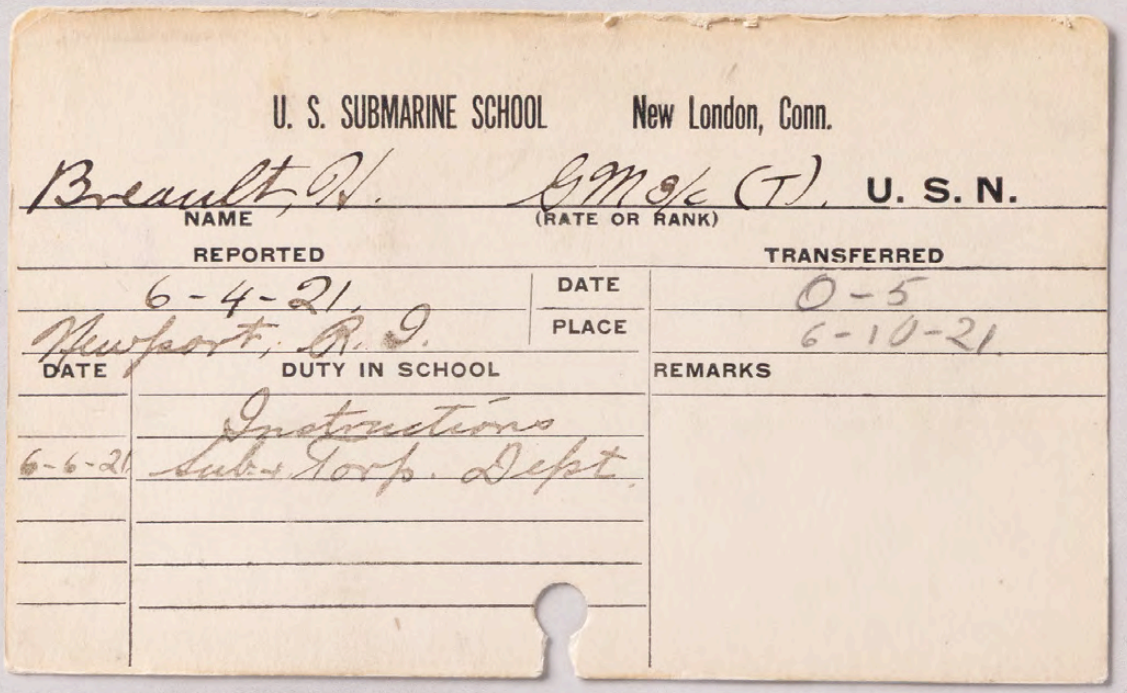
First Lieutenant Elmer F. Stone, U.S. Coast Guard, received this wristwatch from aircraft designer and early aviation pioneer Glenn H. Curtiss in recognition of his accomplishment as pilot of the NC-4 flying boat on the first successful transatlantic flight in 1919. Of special note is the watch guard, incorporating the letters "N," "C," and the number "4." On 10 April 1917, Stone had become the U.S. Coast Guard's first naval aviator, designated Naval Aviator No. 38.

The original crew of NC-4, in Lisbon, Portugal, on 28 May 1919. *Left to right:* Chief Mechanic's Mate Eugene S. Rhoads; Lt. J. L. Breese, reserve engineer; Lt. (j.g.) Walter K. Hinton, USCG; Lt. Elmer F. Stone, USCG; and Lt. Cmdr. A.C. Read, flight commander.

Naval Aviator Insignia

National Naval Aviation Museum

Though the first naval officers began receiving instruction in the art of flying in 1911, it was not until 1917 that the sea service approved the Naval Aviator insignia, also known as the "Wings of Gold," that to this day identifies the wearer as a naval aviator. This example belonged to Lieutenant Commander Godfrey de Courcelles Chevalier, who in October 1922 had the distinction of becoming the first person to land an airplane on the flight deck of USS *Langley* (CV 1), the U.S. Navy's first aircraft carrier.



U. S. SUBMARINE SCHOOL New London, Conn.

Breault, H. GM 3/c (T), U. S. N.
NAME (RATE OR RANK)

REPORTED		TRANSFERRED
6-4-21	DATE	O-5
Newport, R. I.	PLACE	6-10-21

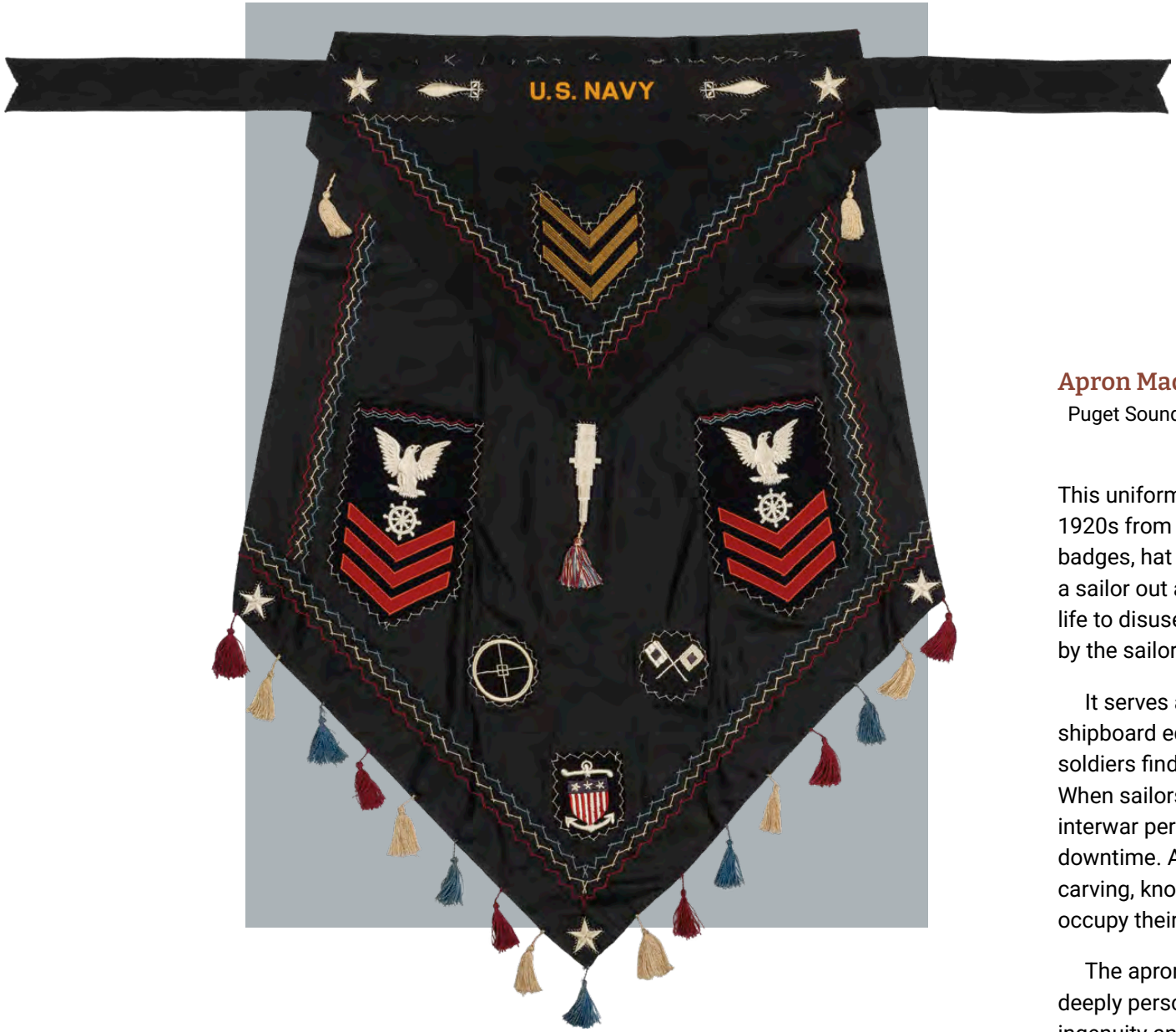
DATE	DUTY IN SCHOOL	REMARKS
6-6-21	Instructions Sub. Torp. Dept.	

U.S. Navy Submarine School Record Card

Submarine Force Museum

This U.S. Navy Submarine School record card belonged to Torpedoman's Mate First Class Henry Breault, a Connecticut native and the only enlisted U.S. Navy submariner in history to be awarded the Medal of Honor. Generations of submariners have passed through Submarine School since its founding on Naval Submarine Base New London in 1916. This record card shows that after his departure from the school in 1921, Breault's intermediate stop was for instruction in Newport, Rhode Island, before reporting to USS *O-5* (SS 66).

Breault was awarded the Medal of Honor on board *O-5* in 1923, when the vessel collided with a steamship in the Panama Canal and bottomed in 42 feet of water. Breault was awake and could have easily escaped to safety, but he remembered that one shipmate was still asleep below decks. He shut the escape hatch behind him and raced below to his shipmate's rescue. Together they were able to seal themselves into a watertight compartment of the boat. For 31 hours, under intense pressure and foul atmosphere, both sailors were able to survive until crane operators and divers were able to raise the submarine from the bottom and open the hatch. Breault's heroism in the early years of the submarine force is often cited to this day as the steel submariners are made of.



Apron Made of Uniform Pieces

Puget Sound Navy Museum

This uniform apron was pieced together in the 1920s from uniform components such as rating badges, hat bands, and patches. Lovingly crafted by a sailor out at sea, this sweetheart apron gave new life to disused uniform pieces and was sent home by the sailor to a loved one.

It serves as an example of "sailor art," the shipboard equivalent of "trench art" created by soldiers finding ways to fill their time while at war. When sailors went to sea, in particular during the interwar period, they often faced long periods of downtime. Artistic pursuits like scrimshaw, wood carving, knotwork, and sewing provided ways to occupy their time.

The apron is not only a functional gift, but also a deeply personal work of art. It reflects the sailor's ingenuity and creativity, turning everyday materials into something meaningful. It also provides a unique glimpse into the lives of sailors during this period.

16-Inch/50-Caliber Mark 2 Naval Gun

Central Artifact Collection
Curator Branch

Weighing 284,000 pounds, the 16-inch/50-caliber Mark 2 naval gun could fire 2,000-pound shells over 25 miles and was intended as the main armament on the *South Dakota*–class battleships and *Lexington*–class battle cruisers. With the signing of the Washington Naval Treaty of 1922, which restricted the tonnage of the navies for the world powers at the time, these plans changed. *South Dakota* (BB 49) was under construction at the New York Navy Yard. Its construction was halted in accordance with the new treaty, and it was later scrapped, as were the other ships of the class. This barrel, serial number 111, was manufactured at the Washington Gun Factory, now Washington Navy Yard, in 1922. The successor to this gun, the 16-inch/50-caliber Mark 7 naval gun, became the main armament on *Iowa*–class battleships.

Washington Naval Conference Pipe

National Museum of the U.S. Navy

This tobacco pipe is a memento from the Conference on Limitations of Armament, also known as the Washington Naval Conference, held in Washington, DC, from 1921–22. This event brought together the world's nine largest naval powers to discuss the naval arms race that was occurring after World War I. Decorated with symbols and patterns representing American Indian culture, this pipe is made from earthen clay and shaped to look like a small ceremonial pipe. It is stamped: "CONFERENCE FOR THE LIMITATIONS OF ARMAMENTS, WASHINGTON DC. USA NOV 11 1921."

The leaders at the Washington Naval Conference met to prevent another global conflict in the aftermath of World War I. They discussed naval disarmament, construction restrictions on each navy's most important warships, reducing the size of navies, efforts to deescalate tensions in East Asia, and the opening of China to business and trade, and the acceptance of that country's territorial boundaries.

Hy Hintermeister, *Washington Naval Conference of 1920–1921*, c. 1920, watercolor and gouache on paper, U.S. Navy Art Collection.

Silver Ship Model

Central Artifact Collection
Curator Branch

This sterling silver model of a Chinese vessel was given to the Navy for the humanitarian assistance the Asiatic Fleet provided to Japan after a massive earthquake struck the island of Honshu on 1 September 1923. Later referred to as the Great Kanto Earthquake, this tragic event resulted in approximately 140,000 people dead or missing, triggered fires that destroyed homes and businesses, and created a nearly 40-foot tsunami. The Asiatic Fleet quickly steamed to the area and provided humanitarian relief. Food, medical supplies, construction material, and clothing were provided to the Japanese people. At the request of the Japanese government, refugees from Yokohama and Tokyo were relocated to Shimidzu by two U.S. Navy destroyers. In October 1923, Rear Admiral Thomas Washington accepted this gift on behalf of the Navy.

Reindeer Suit and Mukluks

National Naval Aviation Museum

Naval aviator Rear Admiral Richard E. Byrd Jr. was one of the most acclaimed explorers of his time, devoting his career to surveying some of the most desolate places on earth. After exploring Greenland as part of the MacMillan Expedition in 1925, Byrd commanded the first flights over the North and South Poles, and led the post–World War II Operation Highjump, the largest expedition to the continent of Antarctica. Byrd wore this fur suit and reindeer skin mukluks on one of his expeditions in 1926. In the era before synthetic fabrics, polar explorers warded off the extreme cold with flying suits made using the skins of reindeer or seals.

250-Ton Fitting-Out Crane with Test Load

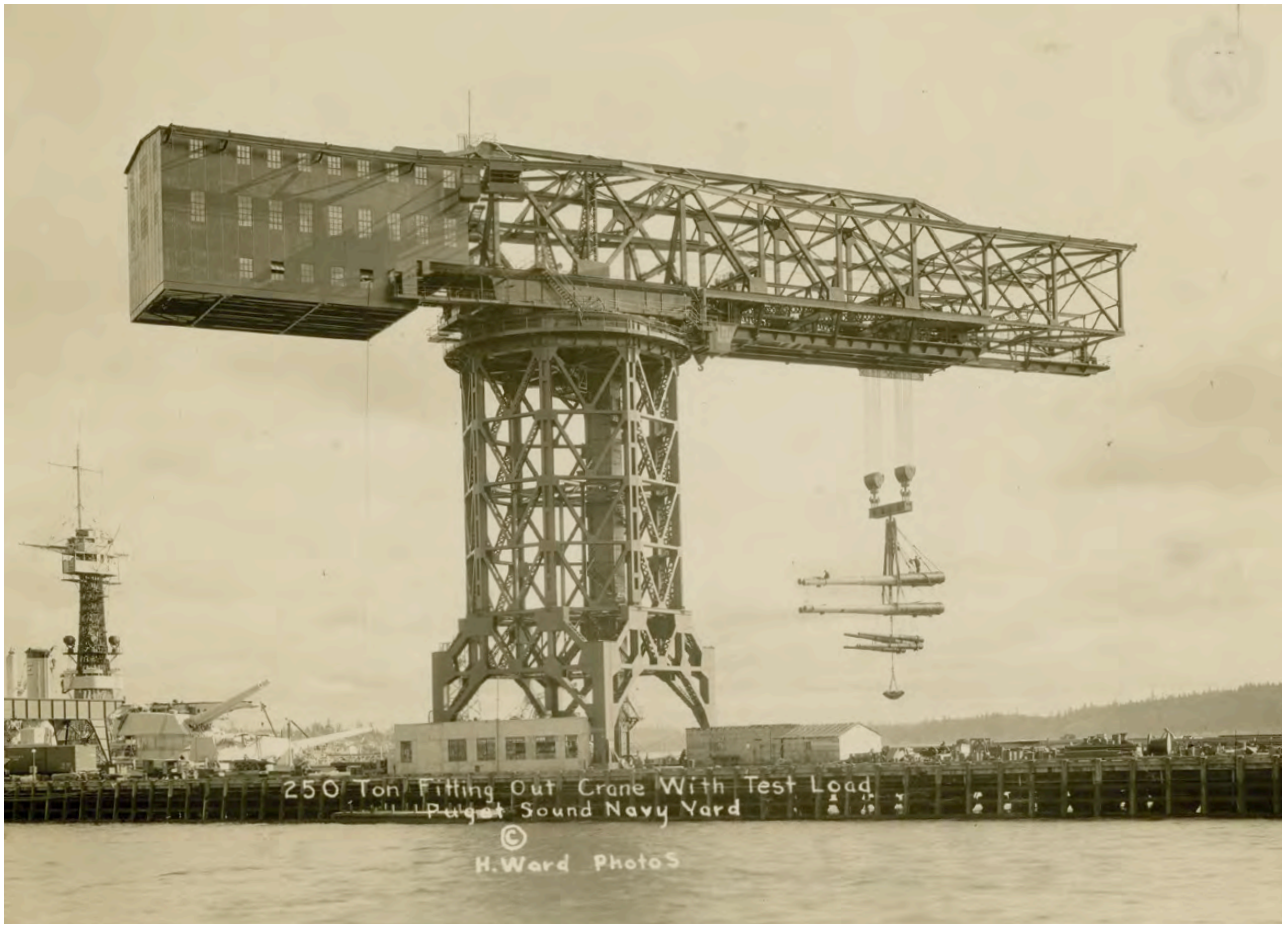
Photograph, 1933
Puget Sound Navy Museum

Cranes loom overhead throughout the Puget Sound Naval Shipyard (PSNS) in Bremerton, Washington. By doing the shipyard's heavy lifting, these symbols of a working waterfront are essential for shipbuilding and repair work. Industrial cranes lift ship components, equipment, and supplies on and off ships visiting the shipyard's piers and dry docks.

The iconic hammerhead crane has been a fixture at the shipyard and visible on Bremerton's waterfront since 1933. It towers 200 feet (or about 25 stories tall) over Pier 6. Officially known as "Crane #28," this stationary gantry crane is named for its shape, which resembles the head of a hammer.

In this March 1933 photo, the crane lifts a test load of 250 tons—equivalent to a herd of 60 elephants, a fleet of 160 sedan cars, or a crowd of 3,500 average adult humans.

When built, it was intended to lift the giant guns off battleships. The U.S. Navy's last active battleships were retired in the 1990s, reducing the need for the hammerhead crane, and today it is no longer in active use. It remains as an iconic landmark at PSNS, symbolizing its enduring legacy of ship repair.

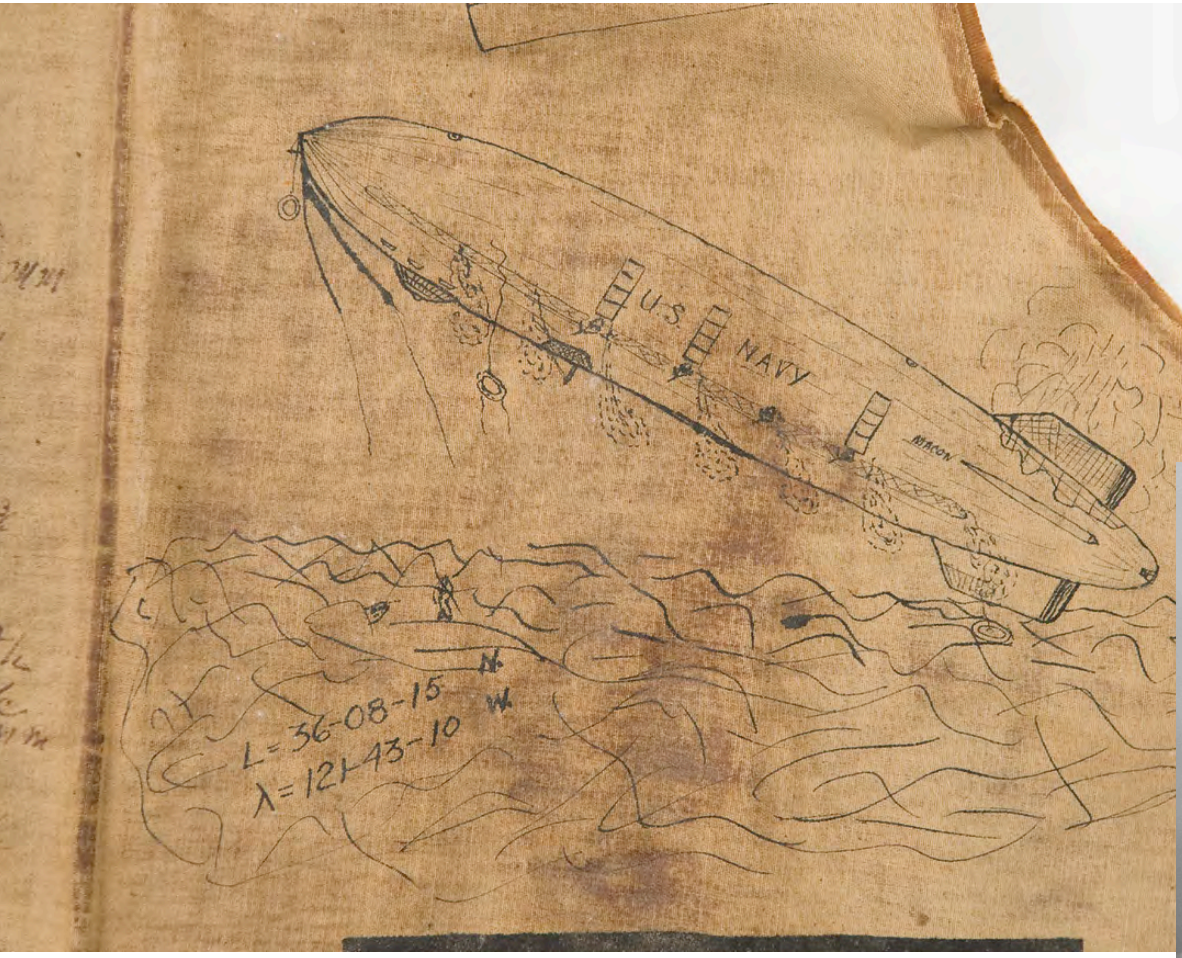


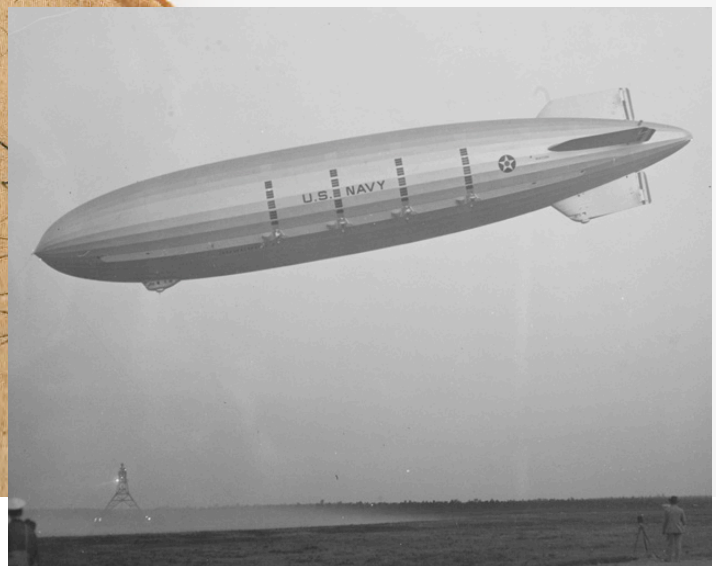
The Fleet's In!
by Paul Cadmus

Tempera on Canvas, 1934
U.S. Navy Art Collection

When the topic of government censorship of art is discussed, frequently the story of the painting by the artist Paul Cadmus for the Works Progress Administration (WPA) entitled *The Fleet's In!* is told. In 1934, Cadmus created this painting in New York City. It was selected for inclusion in an exhibition at the Corcoran Gallery of Art in Washington, DC. Prior to the exhibition opening, a letter to the editor by a retired Navy Admiral Hugh Rodman published in *The Evening Star* (Washington, DC) described the painting as offensive—a highly sexualized painting that illustrates drunk sailors on liberty. During the subsequent outcry, Secretary of the Navy Claude A. Swanson ordered Assistant Secretary of the Navy Henry Latrobe Roosevelt to remove the painting from the show before public viewing began.

Custody of the painting was then transferred from the WPA to the U.S. Navy. Assistant Secretary of the Navy Roosevelt sent the painting to the Alibi Club, an exclusive all-men's club in Washington, DC, where it was continually hidden from public display. In 1980, research into the location of the painting was conducted by a graduate student, who found the painting at the Alibi Club and notified the General Services Administration (GSA). At the same time, a group interested in mounting a retrospective of Cadmus's artwork requested a loan of the painting. This request sparked an exchange of correspondence between the Alibi Club and GSA regarding its legal custody. In November 1980, the Alibi Club returned the painting to the Navy.





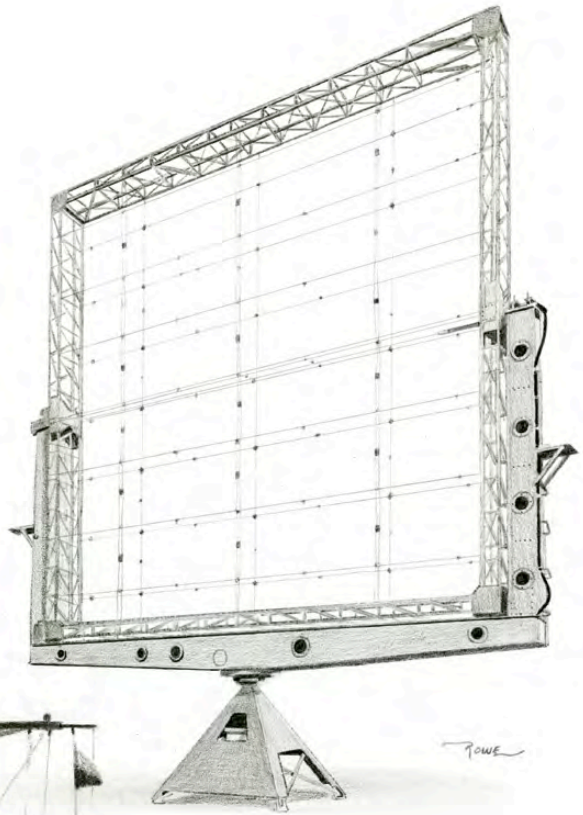
USS *Macon* (ZRS 5) arriving at Naval Air Station Lakehurst, New Jersey, on 24 June 1933.

Life Vest

USS *Macon* (ZRS 5)

National Naval Aviation Museum

The service of the rigid airship USS *Macon* (ZRS 5) ended when it crashed off the coast of California on 12 February 1935. This life vest was worn by one of the members of the crew on that day. It was signed by all of his surviving shipmates and features a drawing of the airship moments before it struck the waters of the Pacific Ocean.



Pencil sketches of the XAF 1 Radar antenna created by NHHC combat artist Douglas Rowe in 2025. One, *below,* shows how it was installed above the bridge on USS *New York* (BB 34) in 1939 and the second, *right,* is a more detailed view of the unit.

Radar, XAF 1

Central Artifact Collection
Curator Branch

In 1935, Congress appropriated $100,000 for the development of radar technology by the Naval Research Laboratory. In December 1938, the Naval Research Lab produced the XAF 1 radar antenna, which was then installed for testing on board USS *New York* (BB 34). After several months of near continuous surface- and air-search use, the antenna was removed in March 1939. After the highly successful test, the Navy was quickly convinced of the usefulness of shipboard radar and continued its development at a rapid pace. The adoption and subsequent advancements in radar technology have become integral to the operational success of the U.S. Navy.

Cribbage Board
USS *Squalus* (SS 192)

Submarine Force Museum

The simple game of cribbage is synonymous with and much beloved by the U.S. Navy submarine force. Cribbage boards have been faithful companions to many a submarine crew during times of great adversity. This cribbage board belonged to Machinist Mate Second Class Gavin Coyne, a survivor of the sinking of USS *Squalus* (SS 192). In 1939, *Squalus* sank during sea trials off the coast of New Hampshire, bottoming in more than 200 feet of water. While 26 sailors were lost during the initial sinking event, 33 personnel, including Coyne, were left trapped in the unaffected part of the submarine. Using the new McCann Rescue Chamber, U.S. Navy divers were able to save all 33 survivors, marking an incredible success story in undersea salvage and rescue. As a testament to the new submarine's design features, it was raised, repaired, and recommissioned as USS *Sailfish* (SS 192). *Sailfish* would go on to complete 12 successful war patrols in the Pacific Theater during World War II.

Members of Admiral William F. Halsey's staff aboard USS *New Jersey* (BB 62) enjoy a game of cribbage, December 1944.

1937
1938
1946
1947
1948
1949
1950
1951

World War II, *1939–45*

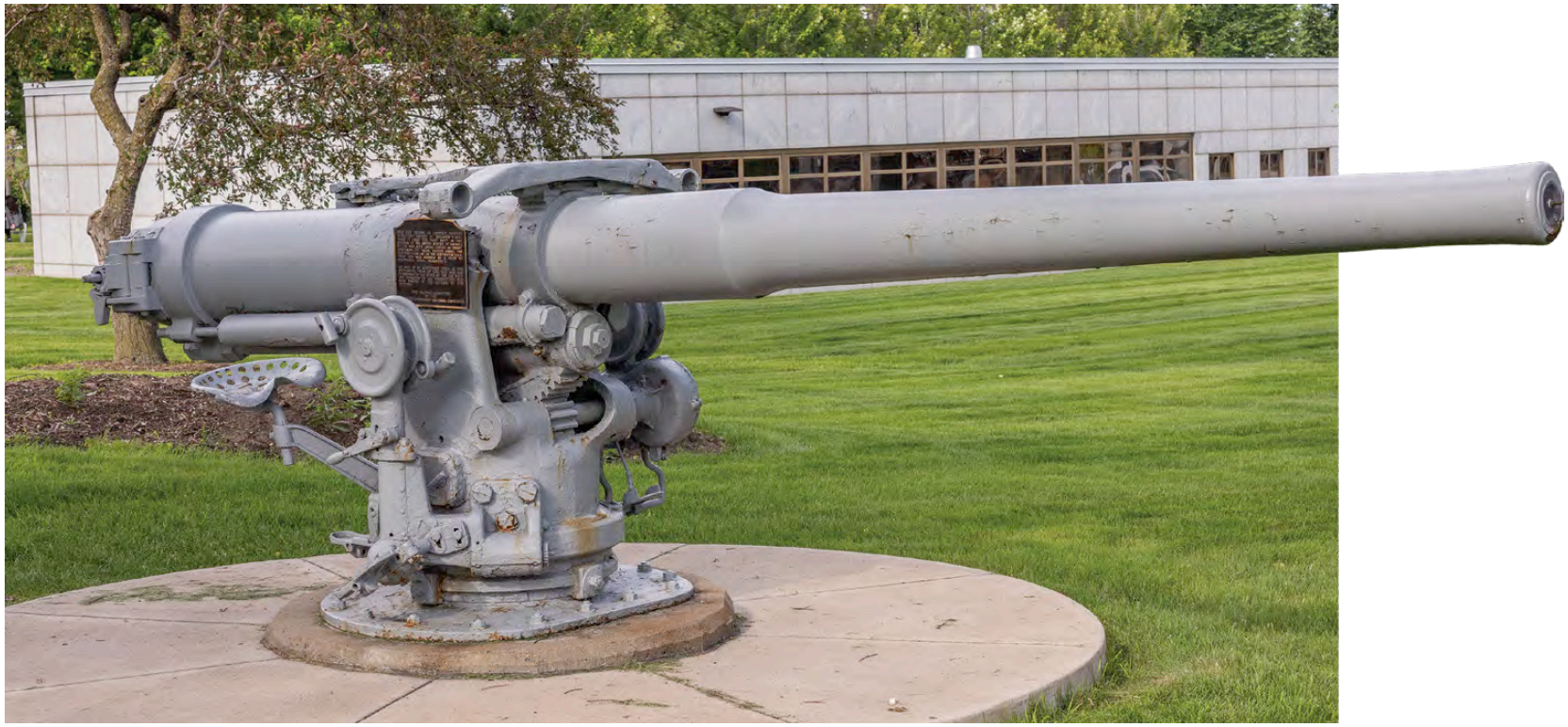
The years 1939–45 were perhaps the most tumultuous in the history of the United States Navy. When Germany invaded Poland on 1 September 1939, the Navy had 394 vessels in commission. When the Japanese attacked Pearl Harbor on 7 December 1941, American industry and shipyards were in the process of a major expansion as a result of the Naval Act of 1938 and the Two Ocean Navy Act in 1940. The first six months of 1942 were hard ones for the Navy as the U-boat offensive off the East Coast wreaked havoc on Allied shipping. In the Pacific, the Navy seemed on the brink of disaster until the Battle of Midway in June and the subsequent Guadalcanal campaign from August 1942 to February 1943. As the fight for Guadalcanal ended, the tide finally turned in the Allied favor. The first of the new fleet reinforcements begun during the pre–war mobilization began to enter service.

For the next two years, the Navy experienced unprecedented quantitative and qualitative growth in numbers of ships, aircraft, and personnel. By the time USS *Missouri* (BB 63) steamed into Tokyo Bay to accept the Japanese surrender on 2 September 1945, the Navy had an astounding 6,768 vessels in commission. With the coming of peace and the advent of the Atomic Age, the Navy would once again find itself struggling to justify its existence as many government leaders felt the atomic bomb and air power had made the concept of a navy obsolete, a view finally dispelled with the outbreak of the Korean War in 1950. The art, artifacts, and submerged cultural sites depicted in this chapter represent the nature of the U.S. Navy as it waged total war on a global scale from 7 December 1941 through 2 September 1945.

Sinking of the Reuben James
by Griffith Baily Coale

Drawing, 1941
U.S. Navy Art Collection

Griffith Baily Coale was the first combat artist for the U.S. Navy. In August 1941, prior to the U.S. entry into World War II, while aboard a convoy ship in the North Atlantic, he witnessed a torpedo strike USS *Reuben James* (DD 245), sinking the ship. Coale described it as "a terrific roar, a column of orange flame towers high into the night as her magazines go up, subsides, leaving a great black pall of smoke, licked by moving tongues of orange. All the ship forward of the No. 4 stack has disappeared."



4-Inch/50-Caliber Gun

USS *Ward* (DD 139)

Central Artifact Collection
Curator Branch

Early in the morning on 7 December 1941, USS *Antares* (AKS 3) arrived at Pearl Harbor with a barge in tow. At 0630, crew from the ship spotted a suspicious object, which they suspected may have been a submarine. USS *Ward* (DD 139) was dispatched to investigate and at 0645, fired several shots from this gun at what appeared to be the conning tower of a submerged vessel. The *Ward*'s crew stated they witnessed the impact that caused the damage to the conning tower and the unverified object disappeared. Just over an hour later, the Japanese surprise attack on Pearl Harbor began. In 2002, the University of Hawaii's Undersea Research Laboratory discovered a submarine in this location with a four-inch hole in the submarine's conning tower. This hole matched the bore of the gun and verified that *Ward* did sink the submarine, making this the gun that fired the first American shot of World War II in the Pacific.

Image Credit: U.S. Navy

Model, USS *Arizona* (BB 39)

Puget Sound Navy Museum

While the NHHC collection contains many ship models, this one is unusual in that it depicts the ship not during active service but after its sinking. It represents USS *Arizona* as it appears today, resting on the bottom of Pearl Harbor, Hawaii.

This model was created with the help of divers who conducted extensive scanning of the wreck site. These scans were digitally assembled into a 3D computer model, allowing this physical model to be 3D printed. A model like this helps the National Park Service track changes in the ship over time and provides the public with a better understanding of the ship's appearance underneath the waterline.

Image Credit: U.S. Navy

USS *Arizona* (BB 39)

Underwater Archaeology Branch

One of the most recognized U.S. Navy shipwrecks is that of USS *Arizona*. Laid down on 16 March 1914 as a *Pennsylvania*–class battleship, *Arizona* was launched a year later and commissioned on 17 October 1916. During World War I, *Arizona* served as a gunnery training ship and patrolled the waters of the eastern seaboard, and later served as a flagship for various battleship divisions.

On 7 December 1941, the Imperial Japanese Navy carried out a massive surprise attack on the Pearl Harbor Naval Base in Honolulu, Hawaii. With the goal of disabling the U.S. Pacific Fleet, the enemy damaged or destroyed 21 U.S. Navy ships. *Arizona* suffered two direct bomb hits, one of which penetrated the deck and detonated in the powder magazine. A catastrophic explosion ripped through the ship, breaking it in two and igniting fires that burned for several days. The explosion and subsequent sinking of *Arizona* took the lives of 1,177 of the 1,512 men on board. Following a massive salvage effort, *Arizona* was largely left alone for the rest of the war and the remainder of the 1940s. In the early 1960s, Congress authorized the construction of a memorial over the wreck, which was officially dedicated in May 1962 and sees more than one million visitors annually. Today, the wreck is managed by NHHC and the National Park Service.

Life Raft

National Naval Aviation Museum

In January 1942, the crew of a TBD Devastator torpedo bomber became lost while on patrol from the aircraft carrier USS *Enterprise* (CV 6). Operating under strict radio silence, lest the position of the ship be compromised, those in the aircraft realized that the end of their fuel supply meant ditching the aircraft in the water. For 34 days, this raft was home to the three men, their growling stomachs and parched lips eased only by rainwater they caught and the occasional fish or bird they could kill. Each day they noted, by a tally mark etched in pencil on the raft, the progression of their ordeal at sea, which ended only when they washed up on the shore of Pukapuka Atoll in the Pacific. Their journey had taken Aviation Chief Machinist's Mate Harold F. Dixon, Aviation Ordinanceman 2nd Class Anthony J. Pastula, and Radioman 3rd Class Gene D. Aldrich some 900 miles.

TBD-1 Devastator

Underwater Archaeology Branch

Entering U.S. Navy service in 1937, the Douglas TBD Devastator was quite possibly the most advanced torpedo bomber of its era, though the rapid pace of aircraft development leading up to and during World War II meant that it quickly found itself overcome by competing designs. Following the Japanese attack of Pearl Harbor, Bureau No. (BuNo) 1515 was assigned to USS *Yorktown* (CV 5) and took part in the U.S. Navy's first offensive action of World War II when it launched on 1 February 1942 on a strike against Jaluit Atoll. BuNo 1515, alongside BuNo 0298, ultimately had to ditch into the western side of Jaluit Lagoon after running low on fuel. The crews, which survived the ditching, were captured and transported to Japan, where they were prisoners of war until the end of the war. BuNo 1515 itself was discovered in 1997 during a survey requested by the National Park Service; BuNo 0298 was found a few years later, and both aircraft have been extensively archaeologically documented over the years, most recently with the use of photogrammetry and an underwater laser scanner. Though a small number of examples have been identified underwater, there are presently no TBD-1 Devastators in any collection or museum around the world.

Image Credit: The TBD Devastator Project

USS *Tennessee* (BB 43) underway on Puget Sound, Washington, May 1943, after modernization.

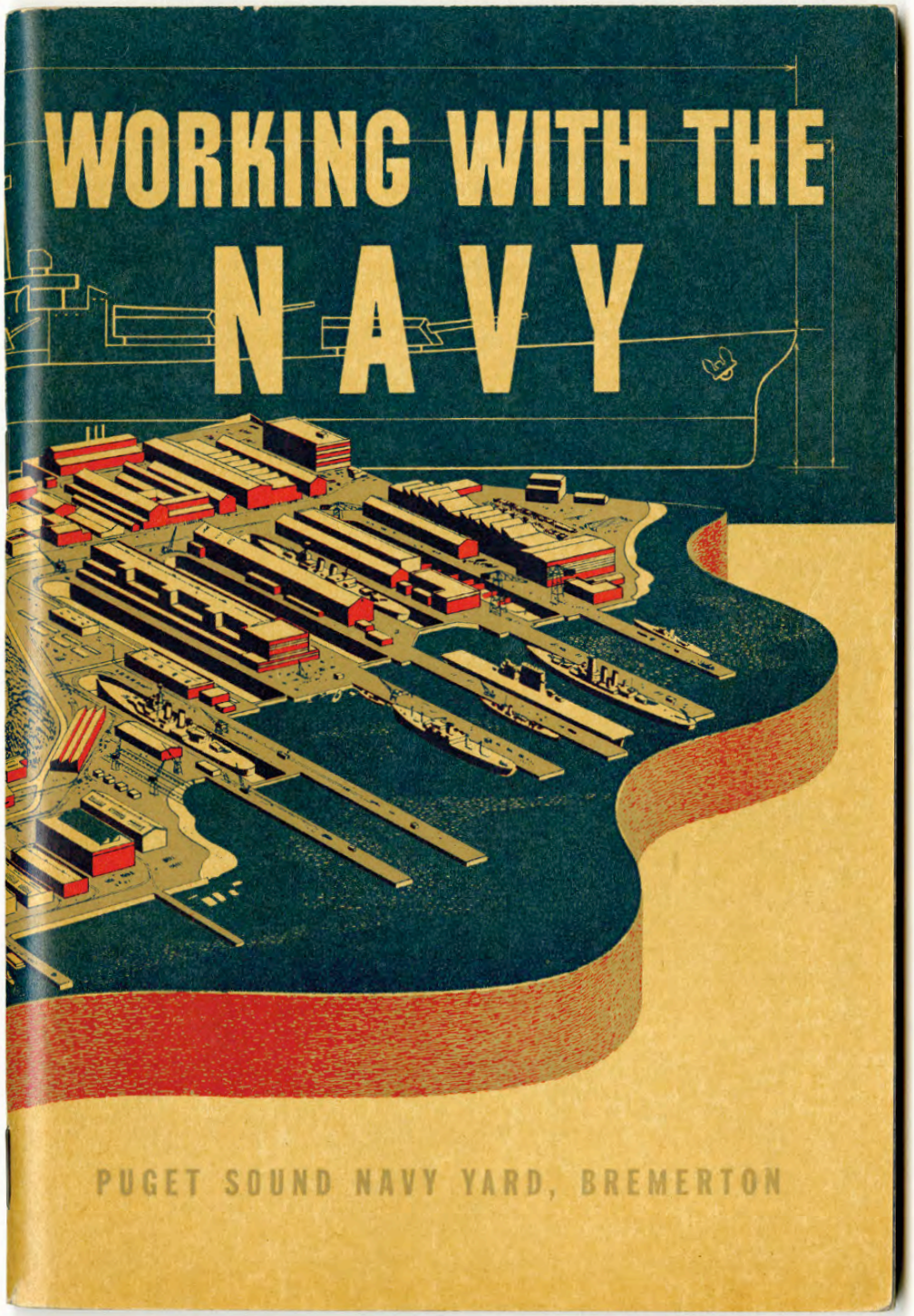
Shrapnel

USS *Tennessee* (BB 43)

Puget Sound Navy Museum

This piece of shrapnel was removed during repairs to USS *Tennessee* at the Puget Sound Naval Shipyard in Bremerton, Washington. *Tennessee* was one of five battleships damaged during the attack on Pearl Harbor to be repaired in Bremerton. During the war, the Puget Sound Naval Shipyard played a critical role in the war effort by repairing Pacific Fleet battleships that had been damaged in battle. More than 32,000 workers fueled the war effort here, returning ships to active service as quickly as possible.

Of the five battleships repaired following the attack on Pearl Harbor, *Tennessee* sustained relatively minimal damage. Arriving in Bremerton on 29 December 1941, repairs were completed by the end of February 1942. *Tennessee* was soon underway, returning to the Pacific fleet for the remainder of the war, and went on to participate in the naval operations at Leyte Gulf, Iwo Jima, and Okinawa.



Working With the Navy Booklet

Puget Sound Navy Museum

In 1942, a new hire at the Puget Sound Naval Shipyard in Bremerton, Washington, received this handbook of safety rules, maps, and guides to services available within the shipyard. During World War II, there were more than 32,000 individuals employed at the shipyard, working around the clock on more than 400 vessels that visited the shipyard during the war years, including aircraft carriers, battleships, destroyers, and cruisers.

Given the fast pace of hiring, the Navy needed a way to quickly orient these new employees—many of whom had never held a job before—to their new industrial positions. This handbook served as a vital tool in introducing them not only to the technical aspects of ship repair, but also to the logistical challenges of navigating work in a large, bustling industrial environment. By providing crucial information and practical resources, it helped thousands of workers.

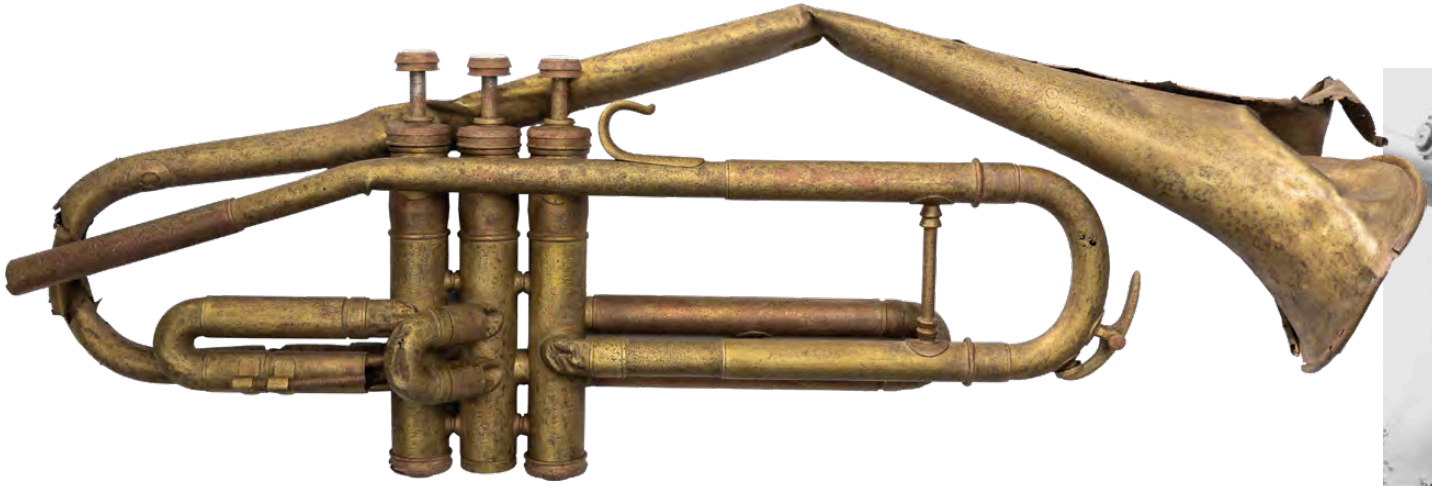
Original Seabee Logo and Recruitment Insignia Paintings

U.S. Navy Seabee Museum

In early 1942, Frank Iafrate was asked to create an insignia for the newly created naval construction battalions. Iafrate chose a busy bee that works industriously and yet is capable of protecting its property when confronted by an enemy. He decided an animated bee wearing a white Navy hat to make it strictly Navy; a hammer and wrench in its "hands" to show its construction abilities; and a submachine gun in its front "legs" to show its military prowess. Iafrate designed the bee with a determined look on its face to show it quickly meant to do what it set out to do.

The insignia, with the new name for the newly created battalions, was so widely accepted that it was sent to Rear Admiral Ben Moreell, chief of the Bureau of Yards and Docks. By this time, the Bureau of Yards and Docks had already begun a recruiting drive for the 12 newly approved battalions. They decided to use another insignia showing a sailor, against a background shield of red, white, and blue, bare-chested, holding a sledgehammer in his hands, and entitled "Construimus Batuimus, U.S.N.," translated as "We Build, We Fight."

Once Iafrate's bee arrived, the bureau decided his insignia would have more recruiting appeal and chose it to be the official insignia for all the battalions while the other design became the official seal. On 5 March 1942, the chief of the Bureau of Navigation approved the designation of construction battalions as "SEABEES" and the insignia was authorized.



President Franklin D. Roosevelt and his party on the O1 level (the deck above the main deck) as the ship passes through the Gatun locks, Panama Canal, on 11 July 1934.

Trumpet

USS *Houston* (CA 30)

Underwater Archaeology Branch

Commissioned in June 1930, the *Northampton*–class light cruiser USS *Houston* had an extraordinary history that included serving as flagship of the U.S. Asiatic Fleet and hosting President Franklin D. Roosevelt on several occasions. Ordered to the American-British-Dutch-Australian Command in early 1942, *Houston* participated in the Battle of Makassar Strait on 4 February and the Battle of Java Sea on 27 February. The following day, *Houston,* along with the Australian light cruiser HMAS *Perth* (D29), unexpectedly encountered a large Japanese force in Sunda Strait. Both ships engaged the enemy, but the Japanese force of three cruisers and nine destroyers outmatched the Allied vessels. Both Allied ships were lost in the early morning of 1 March 1942.

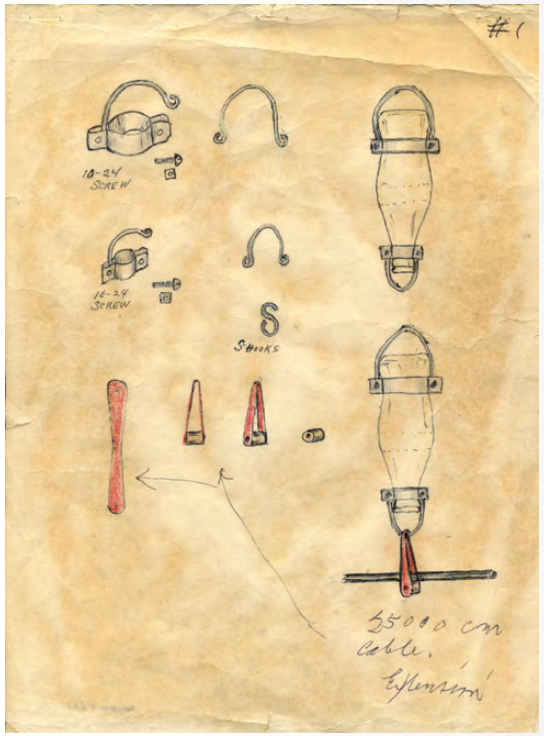
An estimated 645 men (of a crew of nearly 1,100) perished with *Houston* and only 291 survived to the end of World War II as Japanese prisoners of war. In 2011, a trumpet was removed from the wreck site and with the support of the U.S. embassy in Canberra, Australia, it was returned to NHHC. During the conservation treatment, markings were made visible indicating that it was made by the musical instrument manufacturer C.G. Conn, Ltd., in 1933–34. Research indicated a U.S. Navy band was on board. It included three trumpet players and at least one sailor who brought his own trumpet.

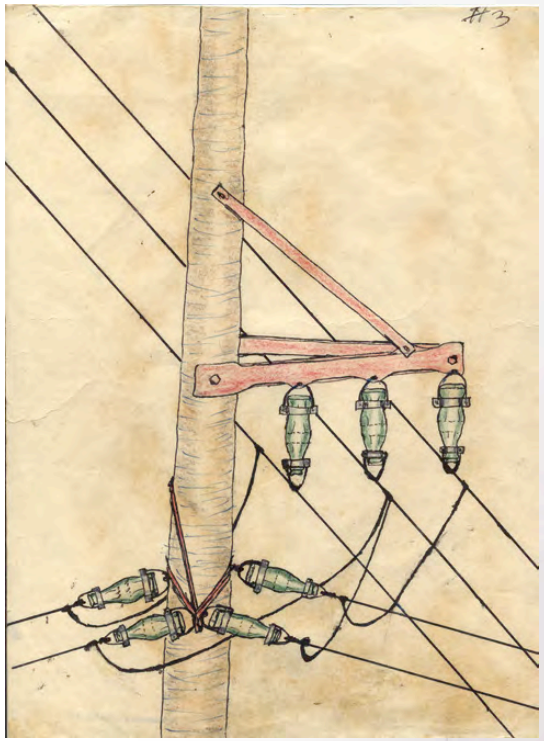
Coca-Cola Bottle Insulators and Artwork

U.S. Navy Seabee Museum

By the time the United States entered World War II, Coca-Cola was an established symbol of American life. To American forces, soft drinks were a simple reminder of home. In an effort to improve troop morale, General Dwight D. Eisenhower requisitioned three million Coke bottles to be shipped to North Africa and the equipment to refill them twice a month. More than five billion servings of Coca-Cola were distributed to U.S. troops during the war, and true to form, Seabees found inventive ways to make use of the bottles for their projects.

In 1942, Chief Electrician's Mate Ernest Schefer was on Bora Bora when he developed designs to use Coca-Cola bottles as electrical insulators. Early in his deployment, Schefer observed an electrician-lineman up in a coconut tree, securing a power line with nails. The lines carried 440 volts and lacked the necessary insulators and other appropriate equipment due to wartime shortages. Soon after, Schefer noticed Coca-Cola bottles lying along the beach, and began to conceive of a way to use these as insulators. He devised a system of using a metal band to hold wire loops at each end of the bottle, and soon after, Coke bottles were being converted into insulators. Schefer discovered that hanging the bottles downward allowed for variations and greater flexibility in the heavy winds. The Coca-Cola bottle drawings highlight the ingenuity and "Can Do" spirit of the Seabees.





Aircraft, SBD-2 Dauntless

National Naval Aviation Museum

No tactic represented naval aviation's rise to preeminence during World War II more than dive-bombing, and no aircraft embodied the success of this tactic more than the SBD Dauntless, which participated in all five of the war's great carrier battles. Dauntless pilots achieved their greatest victory at the Battle of Midway, where they sank four Japanese carriers. SBD-2 Dauntless Bureau Number 2106 survived the attack on Pearl Harbor and the Battle of Midway and the Guadalcanal campaign before finally ditching in Lake Michigan following a naval aviation training exercise. The National Naval Aviation Museum retrieved and restored the aircraft.

Wave on the Wing of a Plane
by John Falter

Oil on Canvas, 1944
U.S. Navy Art Collection

One of the most prolific and well-recognized artists to contribute to the Navy's recruitment campaign, especially the recruitment of WAVES, John Philip Falter created over 300 designs for naval recruitment posters during World War II. The Navy's Office of Facts and Figures (later called the Office of War Information) did not accept unsolicited designs for posters. Rather, the agency sent letters inviting widely respected artists to participate.

The Navy was looking for educated, capable, virtuous, and feminine women. Accordingly, Falter's WAVES are simultaneously glamorous and serious. Obviously, many WAVES did not resemble the beautiful, perfectly proportioned poster women. The tactics employed by the Navy's recruiting bureau in the posters mirrored those of national advertisements and mass media at the time. This oil painting submitted by Falter later became a poster distributed by the U.S. Navy to encourage women to enlist.

WAVES Summer Working Uniform

National Museum of the American Sailor

Established in 1942 to address wartime manpower shortages, Women Accepted for Volunteer Emergency Service (WAVES) was the U.S. Navy's reserve women's branch during World War II. By utilizing women for stateside positions, more male sailors could be assigned for duty at sea or abroad. By 1945, there were more than 80,000 WAVES in the U.S. Navy.

For the cost of only one dollar, the Navy contracted prominent American-born fashion designer Main Rousseau Bocher, founder of the fashion house Mainbocher, to design the uniforms for the WAVES. Cognizant of the criticality of the uniform's design and the project's visibility, Mainbocher designed both working and dress uniforms that balanced femininity with functionality. The uniforms featured a streamlined feminine silhouette but also allowed for freedom of movement. Mainbocher's designs complemented Navy men's uniforms, utilizing the same colors, fabrics, and design elements such as buttons. This gray and white pinstriped cotton seersucker shirtwaist dress was a summer working uniform and was partnered with a matching jacket. The Navy utilized Mainbocher's uniforms in WAVES recruitment advertising and the professional and refined design of the uniforms became a source of pride for the branch.

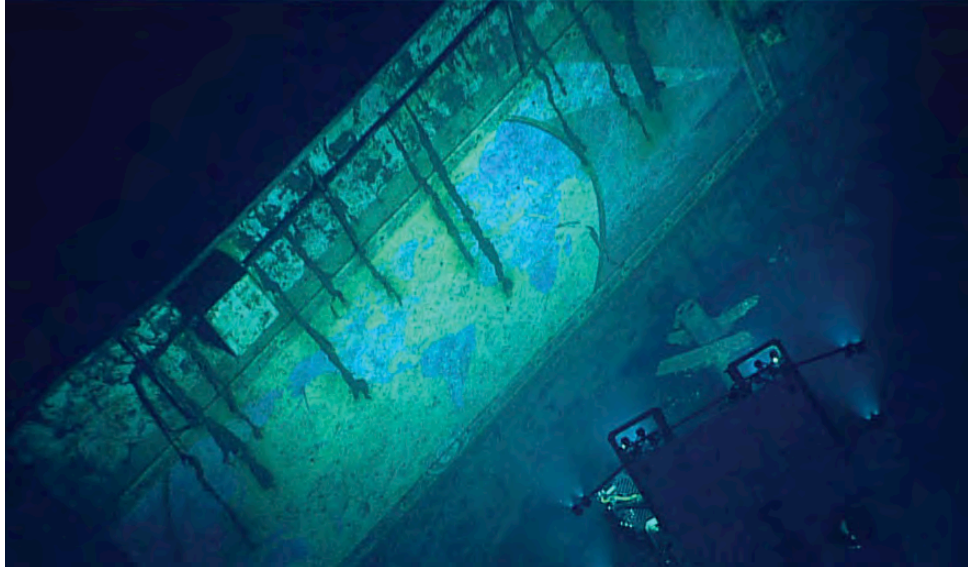
Although the Navy discharged many WAVES after the war's end, their invaluable wartime efforts helped pave the way for the 1948 Women's Armed Services Integration Act, which allowed women to serve as permanent regular members of the military.

USS *Yorktown* (CV 5)

Underwater Archaeology Branch

In the remote reaches of the western Hawaiian Archipelago sits a small atoll named Midway for its location roughly equidistant from North America and Asia. An important strategic base for U.S. aircraft and ships traversing the Pacific, this isolated spot would also be the location of the most important confrontations between the Imperial Japanese Navy and the United States Navy: the Battle of Midway. On 4 June 1942, American aircraft from USS *Yorktown*, USS *Enterprise* (CV 6), and USS *Hornet* (CV 8) sank four Japanese carriers, turning the tide of World War II in the Pacific. Although victorious, *Yorktown* and one destroyer were lost.

The distinguished carrier, launched in 1936 and sponsored by Eleanor Roosevelt, was named after the Battle of Yorktown, which took place during the American Revolution. This vessel carried that revolutionary fighting spirit into battle, stubbornly refusing to sink after sustaining significant damage during the Battles of the Coral Sea and Midway. While in transit to Pearl Harbor on 7 June 1942, the ship, injured from multiple bomb and torpedo hits during the battle, was struck by torpedoes from Japanese submarine *I-168* that caused the carrier to capsize and sink. The wreck of *Yorktown* was discovered by Robert Ballard in 1998 and further documented in a joint effort by NHHC, National Oceanic and Atmospheric Administration (NOAA) Ocean Exploration Trust, and partners in 2023. The incredible depth (more than three miles) helps preserve the wreck for in-depth analysis by archaeologists and allows for thorough documentation of the current condition of the wreck for future study.



Above: During a 2025 expedition to USS *Yorktown* site, a remotely operated vehicle illuminates a mural in the midships elevator. The mural has survived mostly intact with little damage. (Ocean Exploration Trust) *Below:* Crew from *Yorktown* dance during the *Yorktown* Jamboree while the ship was in the Coral Sea, 10 April 1942. The mural, *A Chart of the Cruises of the USS* Yorktown, was painted in the midship elevator and is partially visible in this photograph behind the band. *Yorktown* was lost just two months later, sinking on 7 June 1942. (National Archives and Records Administration [NARA])

International Harvester Tractor

USS *Hornet* (CV 8)

Underwater Archaeology Branch

In the wake of the United States' entrance into World War II, the American manufacturing industry pivoted to support wartime production on an unprecedented scale, later dubbed the "Arsenal of Democracy." One such company was the American agricultural equipment manufacturer International Harvester, which supplied a variety of products such as cargo trucks, torpedoes, ice chests, and tractors in support of the war effort. In addition to purpose-built military equipment, many products were repurposed for military use, particularly early in the war, and ended up in surprising locations. This is how a farm tractor was found lashed to the deck of a sunken aircraft carrier at a depth of over 5,000 meters (17,000 feet).

Tractors were used as "aircraft tugs" to move and position aircraft on the hanger and flight decks. The *Yorktown*–class aircraft carrier USS *Hornet* (CV 8), the seventh American ship to carry that name, was laid down in September 1939 in Newport News, Virginia, and commissioned on 20 October 1941 at Norfolk. Despite only a little over a year in service, the ship participated in some of the most crucial operations in the Pacific, including the Doolittle Raid on Tokyo, the famed Battle of Midway, and the Solomon Islands campaign. In defense of Guadalcanal, *Hornet* was critically damaged and sunk during the Battle of the Santa Cruz Islands on 26 October 1942. *Hornet* was the last U.S. fleet carrier lost in action. The wreck of *Hornet* was discovered by Paul G. Allen's R/V *Petrel* in 2019.

USS *New Orleans* (CA 32) Photo

Puget Sound Navy Museum

On 30 November 1942 during the Battle of Tassafaronga, a torpedo tore the entire bow, more than 150 feet of steel, from USS *New Orleans*, killing 183 sailors. The ship limped to Tulagi Harbor and constructed a temporary bow with coconut logs. *New Orleans* then steamed to Sydney, Australia, and eventually made its way to Bremerton, Washington, for permanent repairs. Using the plans for USS *Astoria* (CA 34), sister ship to *New Orleans,* the shipyard workers at Puget Sound Naval Shipyard fabricated a replacement bow for *New Orleans*.

This photo shows *New Orleans* in Bremerton, ready for its new bow. As it was being installed, it was discovered that the new bow was out of line by just one-eighth of an inch, which was quite impressive on a warship that is nearly 600 feet long. By the summer of 1943, *New Orleans* was back in the Pacific.

Background: On 7 July 2025, a team of scientists aboard E/V *Nautilus* discovered the lost bow of USS *New Orleans* using remotely operated vehicles at a depth of 676 meters off Tassafaronga Point in Guadalcanal. (Ocean Exploration Trust/ National Oceanic and Atmospheric Administration)

The crew of USS *Tang* (SS 306) as they return to Pearl Harbor in May 1944. Two of the crew are wearing the same type of sandals. (NARA)

Sandals

USS *Pargo* (SS 264)

Submarine Force Museum

These brown leather sandals, men's size 8, were brought home by a crew member of USS *Pargo* after the ship's successful patrols in the Pacific Theater during World War II. Starting around 1943, the U.S. Navy began issuing these leather sandals to submarine crews stationed in the South Pacific with the intention of reducing foot-related medical issues resulting from the tropical environment. As an unexpected benefit, some submariners reported the sandals' usefulness in quieting their footsteps on the deck plates during those times when absolute silence aboard meant their ship's safe return from a war patrol.

SB2U-2 Vindicator

National Naval Aviation Museum

Bureau Number 1383 is the last SB2U-2 version of the Vindicator produced. It was recovered from Lake Michigan in 1990, 47 years after crashing during flight operations aboard the training aircraft carrier USS *Wolverine* (IX 64). Painted in the markings of its last operational squadron, Bombing Squadron 9 (VB 9), it is the only SB2U Vindicator known to exist anywhere in the world.

Football

National Museum of the American Sailor

From the United States Navy's earliest beginnings, sports played an important role in the lives of sailors. Athletics improved sailors' physical health, taught life lessons of cooperation and camaraderie, and lifted morale. As a result of the World War II draft, many accomplished college and professional athletes spent time participating in Navy athletics, including football and baseball. The Great Lakes Bluejackets football team, which competed against college teams, used this football during their 1943 season. After the season ended, Navy sailor and Bluejacket player Emil Drvaric wrote the game scores onto the football. The Bluejackets finished the season with a 10-2 record and ranked number six in the Associated Press National College Football poll, making it one of their most successful seasons. In the season's final game, the Bluejackets beat the previously undefeated and top-ranked University of Notre Dame.

Painted Beer Keg

U.S. Navy Seabee Museum

On 12 April 1943, Seabees dedicated Advance Base Receiving Barracks Camp Rousseau at Port Hueneme, California, with a keg of beer. Afterward, they memorialized their commanding officer and the event by painting the keg with the original Seabee logo and an ode to their shipmates. The keg was exhibited in the headquarters building at Naval Construction Battalion Center Port Hueneme until it was transferred to the U.S. Navy Seabee Museum in 1957.

Score Another for the Subs
by Thomas Hart Benton

Oil and Acrylic on Board, 1943
U.S. Navy Art Collection

Thomas Hart Benton is a well-known regional artist who briefly served in the Navy during World War I as a draftsman. Moved by the attack on Pearl Harbor in December 1941, Benton completed seven large paintings known as the "Year of Peril" series. These were published as books and posters by Abbott Laboratories—a pharmaceutical company that was producing necessary and improved drugs for the war effort. The president of the company found an additional way to support the war effort by sponsoring artists to depict military subject matter for use by the Department of Defense public relations.

For Abbott Labs, Benton created 25 artworks, showcasing what he witnessed on board the submarine USS *Dorado* (SS 248) and LSTs along the Ohio River. These original paintings and drawings were turned over by Abbott Labs to the Navy. In this painting, *Dorado* is firing on a derelict cargo ship for target practice during its shakedown cruise, summer 1943. Following its commissioning in the fall of that year, *Dorado* sailed for the Canal Zone but never arrived. Air searches discovered oil slicks and widely scattered debris, but no specific identification was made. A German submarine was known to be operating in the area, but the actual fate of *Dorado* is unknown.

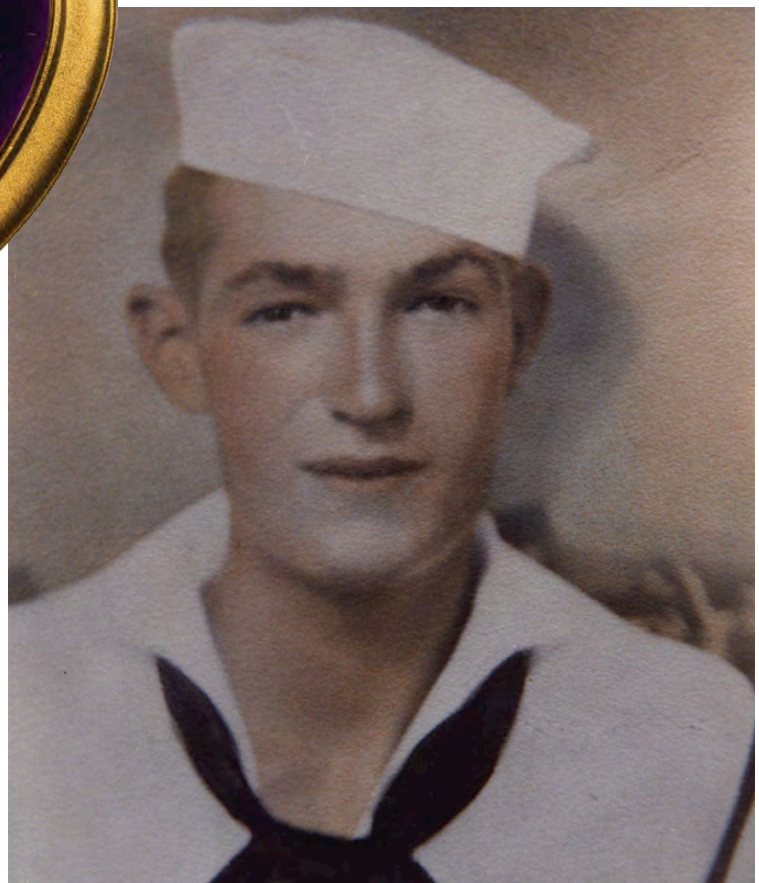
William Charles Batchelor Jr.'s Purple Heart

Puget Sound Navy Museum

William Charles Batchelor Jr. was born in 1921 into a Navy family in San Diego, California. His father, William Senior, was a veteran of World War I and a career naval officer. William Junior followed in his father's footsteps by joining the Navy in 1941.

He was assigned to USS *Houston* (CA 30), operating in the Pacific Theater. On 1 March 1942, *Houston* sank after being torpedoed during the Battle of Sunda Strait. More than 700 sailors lost their lives as a result. Others, including Batchelor, were captured and became prisoners of war.

He died in October 1943 after more than a year of captivity in a prison camp in Burma. He was just 21 years old. His bravery and sacrifice, along with that of countless others, helped shape the Navy's legacy during World War II. He was posthumously awarded this Purple Heart for his ultimate sacrifice in service to his country.



Colorized portrait of William Batchelor Jr., date unknown.

Special Training Unit
by Hughie Lee Smith

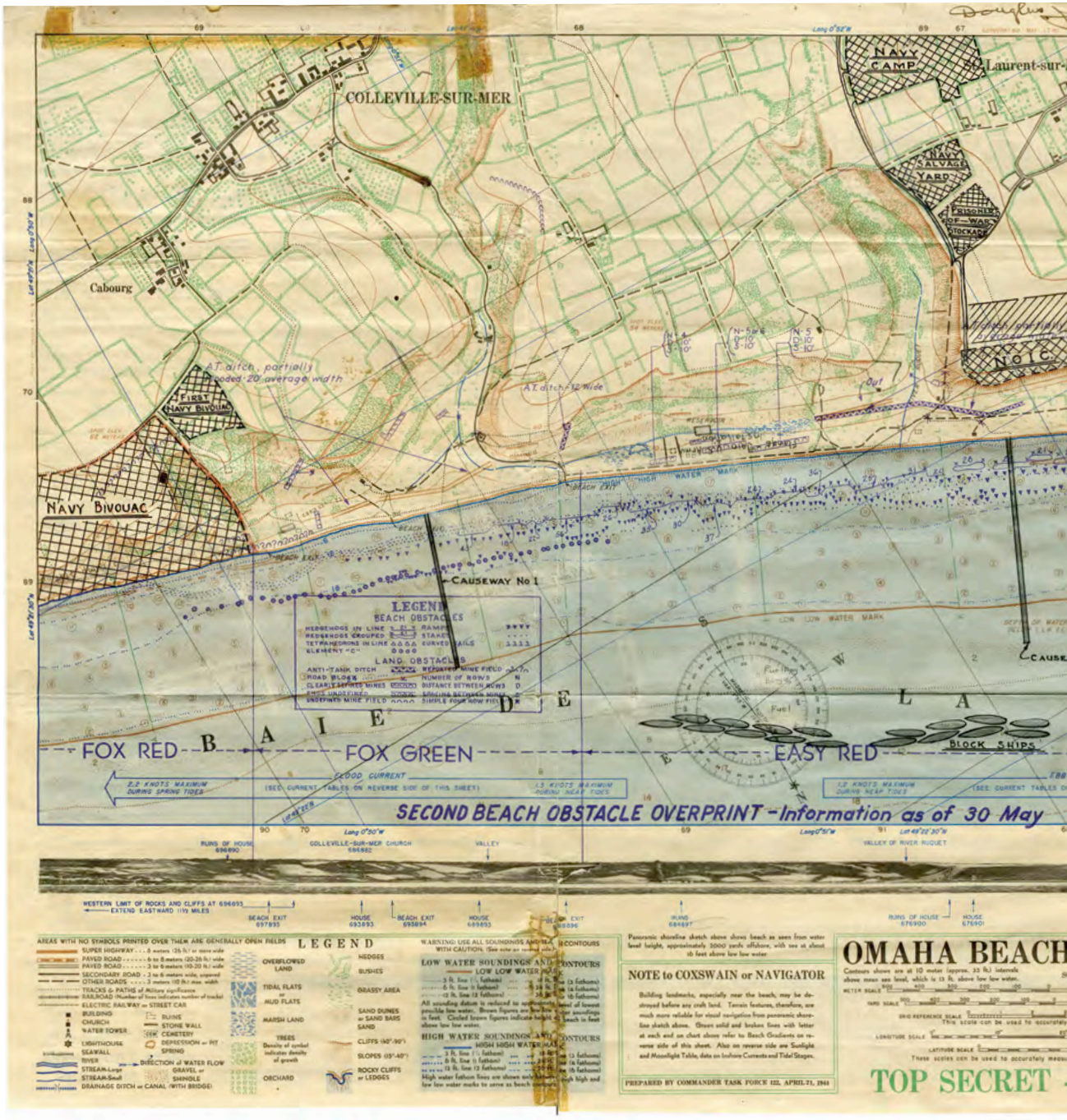
Oil on Masonite, 1944
U.S. Navy Art Collection

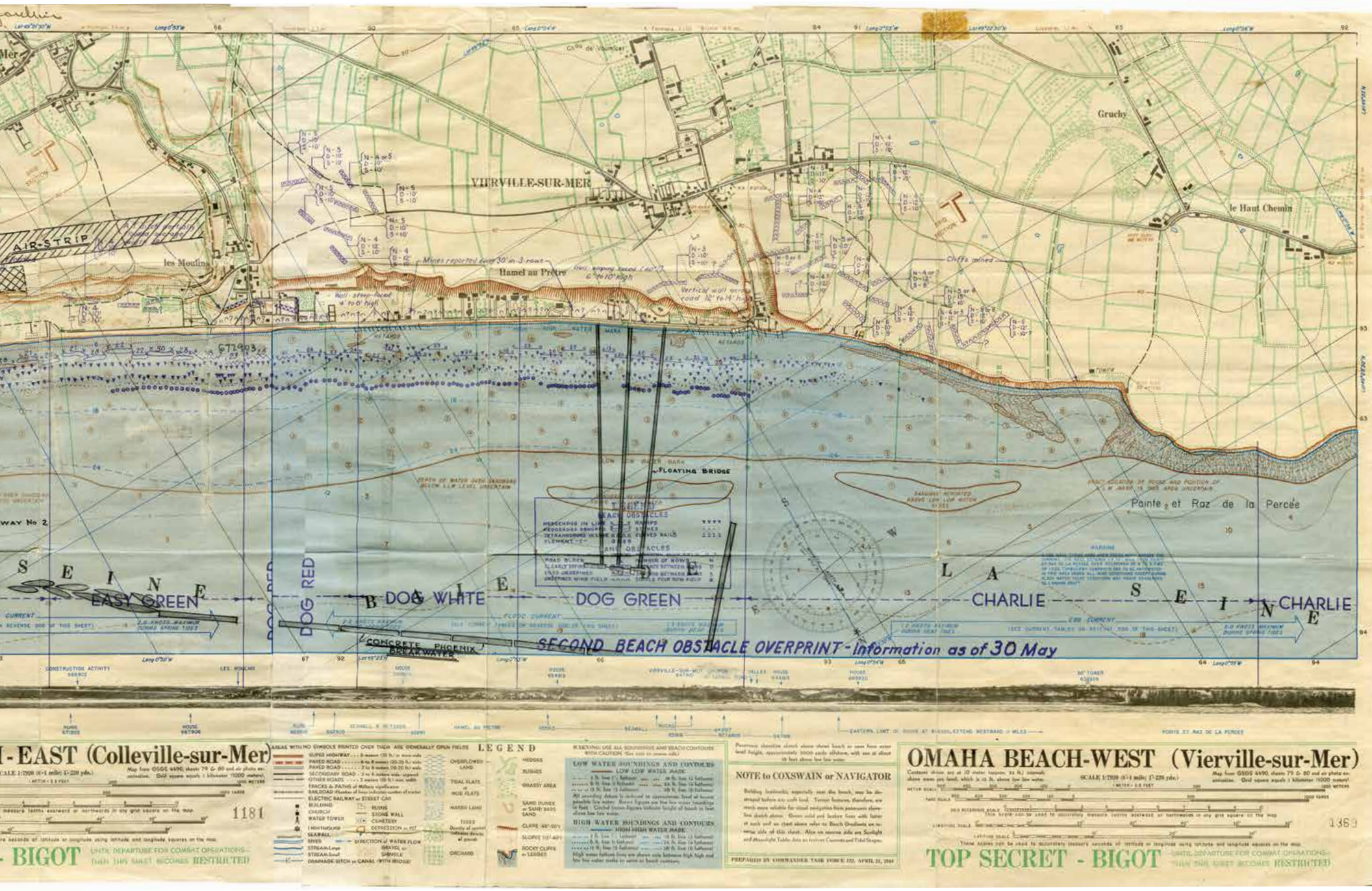
Hughie Lee-Smith was a well-known African American artist of the late twentieth century. During World War II, he joined the Navy and finished several paintings for and of the Great Lakes Naval Training Center. The imagery in this painting depicts the journey of African Americans joining the Navy from the one-room schoolhouse where they had limited educational opportunities to modern facilities while serving their country. Smith later served as a civilian combat artist, painting a portrait of Admiral Samuel B. Gravely and the first reunion with nine of the thirteen African Americans commissioned in the U.S. Navy late in World War II.

Annotated Map of Omaha Beach

U.S. Navy Seabee Museum

Prior to the invasion of Normandy, France, personnel tasked to take part in Operation Overlord at Omah Beach were allocated two landing maps: Omaha Beach East and Omaha Beach West. In early June 1944, shortly after the D-Day invasion, Captain Douglas Jardine, commanding officer of 25th Naval Construction Regiment (NCR), taped the maps together and hand-annotated the location of the Mulberry "A" system, causeways, camps, and base infrastructure. The 25th NCR commanded all Seabee units that took part in the D-Day invasion, built the Mulberry "A" system, drove the Rhino ferries, floated the Phoenix breakwaters across the English Channel, and built and installed the causeways between the LSTs and shore. These all played a key part in moving essential men and logistics from England to the far shore.




VIERVILLE-SUR-MER
Gruchy
le Haut Chemin
AIR-STRIP
les Moulins
Hamel au Prêtre
Mines reported every 30' in 3 rows
Vertical wall across road 12' to 14' high
Cliffs mined
FLOATING BRIDGE
Pointe et Raz de la Percée
EASY GREEN
DOG RED
DOG WHITE
DOG GREEN
CHARLIE
CHARLIE
CONCRETE PHOENIX BREAKWATER
SECOND BEACH OBSTACLE OVERPRINT - Information as of 30 May
I-EAST (Colleville-sur-Mer)
LEGEND
NOTE to COXSWAIN or NAVIGATOR
OMAHA BEACH-WEST (Vierville-sur-Mer)
1181
1369
BIGOT
TOP SECRET - BIGOT

Navy Lighterage Pontoon

U.S. Navy Seabee Museum

The most unique amphibious invention to come out of World War II was the universal pontoon. Development began as early as 1932, when the War Plans Division of the Bureau of Yards and Docks (BuDocks) considered the problems connected with amphibious landings and advance base operations. In 1939, BuDocks tasked Captain John Laycock to develop universal components, which could fit together to form various items of advance base equipment. Laycock's final design welded together the pontoon walls for strength, creating a steel box. Then the pontoons were strung together with steel L-strips, and bolts and wedges later known as "pontoon jewelry."

During World War II, various pontoon assemblies were created, including causeways, Rhino ferries, net tenders, warping tugs, floating cranes, piers, wharves, ramps, and even an experimental landing field. BuDocks designed 31 standard assemblies that could be created using pontoons. However, Seabees were well-known for creating gadgets utilizing pontoon pieces including garbage scows, full oven sets, water trucks, swimming pools, and floating dry docks for smaller vessels.

Troops disembark from their landing craft onto the pontoon causeways at Normandy, France, in June 1944.

Below: Troops in a landing craft approach Omaha Beach on 6 June 1944. The netting on the helmets was applied for personnel to attach leaves, sticks, or other material to create a camouflage effect.

M1 Helmet with Liner

Central Artifact Collection
Curator Branch

On 6 June 1944 at Omaha Beach, Lieutenant (j.g.) Mortimer Caplin wore this helmet and liner during the Normandy invasion. Caplin was a beachmaster assigned to 7th Naval Beach Battalion, responsible for coordinating the movement between the Navy ships at sea and Army units on land. His unit was also responsible for removing obstacles from the beach, including equipment, obstacles, or the bodies of fallen Allied personnel. Caplin survived his deployment to Normandy and, after the invasion, spent time as a legal officer in England defending enlisted Navy personnel. The M1 helmet was used by U.S. military personnel throughout World War II until the mid-1980s.

"Danger - War Shot Loaded" Sign

Submarine Force Museum

This sign reading "Danger—War Shot Loaded" from USS *Ronquil* (SS 396) would historically be used aboard U.S. Navy submarines to indicate when a live torpedo was loaded into a torpedo tube. Modern submarines still use similar signage today. Submarines often carry inert weapons, or "dummy torpedoes," to use in training and practice evolutions in local waters. Prior to embarking for their designated theater of operations, submarines are outfitted with live torpedoes, or "war shots." The reverse of the sign reads "Danger—Tube Flooded." Flooding a torpedo tube is one of the preliminary steps of launching a torpedo, which ensures no air rises to the surface or damages components when firing. *Ronquil* was commissioned on 22 April 1944 and conducted five war patrols in the Pacific Theater during World War II.

Caterpillar D7 Cable Dozer

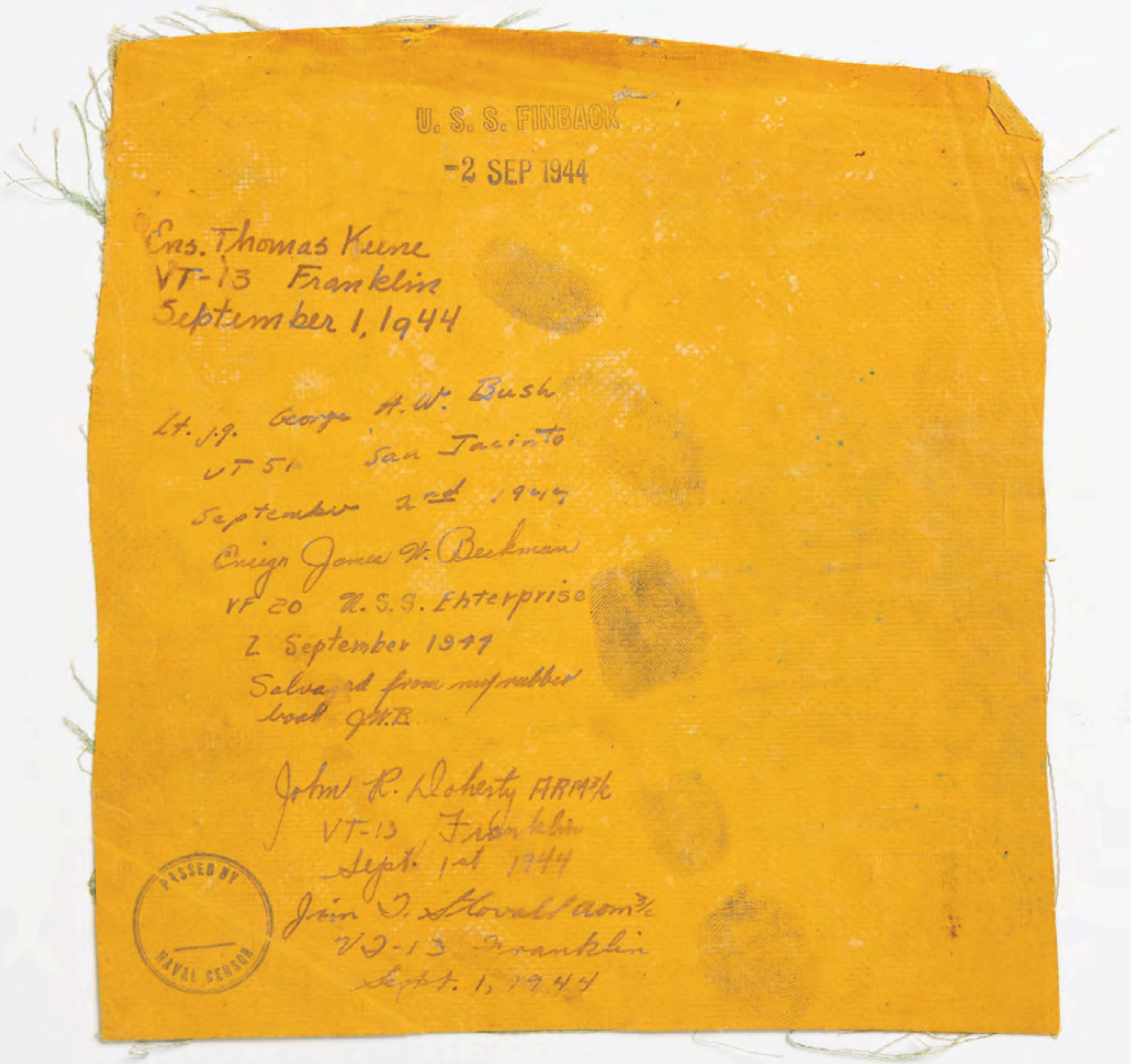
U.S. Navy Seabee Museum

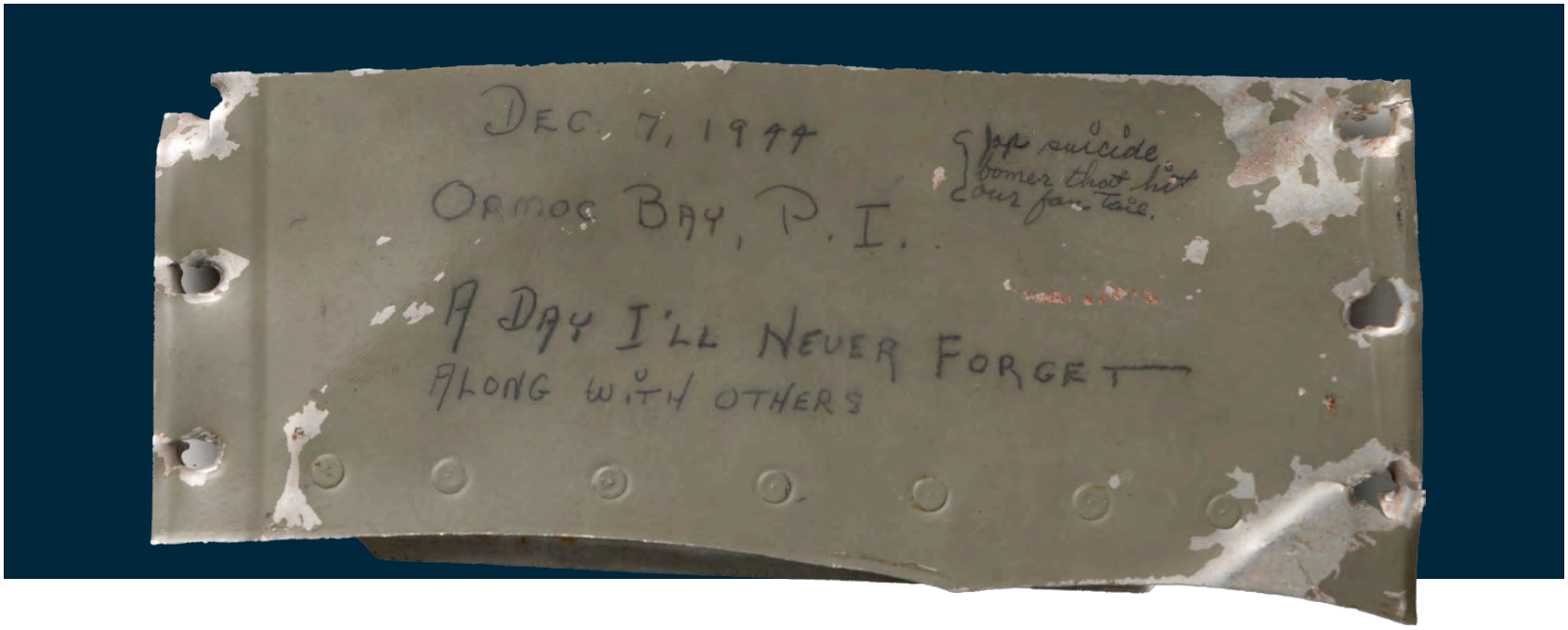
The D7 dozer was the quintessential piece of equipment associated with Seabees during World War II. Found on their unit plaques, described in news stories, photographed and filmed, and referred to by generals and admirals, the dozer was forever entwined with the Seabee image. Nearly 40,000 were manufactured in five variations for military use during the war.

Section of Rubber Life Raft

National Naval Aviation Museum

In 1944, USS *Finback* (SS 230) was assigned lifeguard duty in the Pacific Theater during the ship's ninth and tenth war patrols. This involved rescuing aviators and aircrewmen who were shot down by enemy fire. From 1 to 2 September 1944, the submarine's crew pulled five personnel from the water during air attacks against Chichi Jima. Lieutenant (j.g.) Lawrence Heyworth of *Finback*'s crew created a unique personal memento of those saved by the boat. Cutting a section of the rubber raft used by one of them to survive, Heyworth asked each of the airmen to sign and affix their thumbprint to it. Little did he know that one of them, Lieutenant (j.g.) George H. W. Bush from Torpedo Squadron (VT) 51 off the carrier USS *San Jacinto* (CVL 30), would one day become the 41st President of the United States. Heyworth later changed his career path from undersea service to naval aviation. He earned his wings of gold, became a Navy test pilot and was a candidate for the Mercury Space Program. He retired as a two-star admiral.





Japanese Aircraft Fragment

Naval War College Museum

This piece of metal was recovered from the fantail of USS *Edwards* (DD 619). On 7 December 1944, three years to the day of the Japanese surprise attack on Pearl Harbor, *Edwards* participated in the landings at Ormoc Bay in the Philippines. During the engagement, *Edwards*'s crew shot down multiple aircraft, with one of them crashing into the fantail. The sailor who recovered the wreckage annotated it with the date of the attack, which occurred on the three-year anniversary of the air raid on Pearl Harbor.

Mess Plate

USS *Ommaney Bay* (CVE 79)

Underwater Archaeology Branch

In 2019, Vulcan, LLC, part of a private company founded by entrepreneur Paul Allen to explore the oceans, discovered the wreck of USS *Ommaney Bay* (CVE 79) in the Sulu Sea. In 2023, Sea Scan Survey and DPT Scuba relocated the wreck site and conducted a series of investigative dives. The information gathered allowed NHHC to confirm the identity of *Ommaney Bay*. During these dives, the team recovered a single artifact from the ship's wardroom, a ceramic mess plate. On the reverse of the plate is a maker's mark, "Shenango China, New Castle PA," a distributer of U.S. Navy chinaware during the war.

Ommaney Bay served in the Pacific Theater during World War II. Smaller, auxiliary aircraft carriers like *Ommaney Bay* provided much needed air support to some of the most notable naval engagements of the war, including Iwo Jima and the Battle off Samar. On 4 January 1945, while cruising through the Sulu Sea, a surprise Japanese kamikaze aircraft crashed into *Ommaney Bay*'s starboard side, exploding its two bombs and causing significant damage to the escort carrier. Unable to be saved and refusing to sink, the destroyer USS *Burns* (DD 588) eventually torpedoed the mortally wounded carrier. Ninety-five crewmembers died in the attack and sinking.

Though only one plate was recovered, additional ceramic plates and plate fragments were seen and left at the site. The ceramic plate shown here was not recovered. (Photograph courtesy of Samir Alhafith)

Japanese Flare Gun

U.S. Navy Seabee Museum

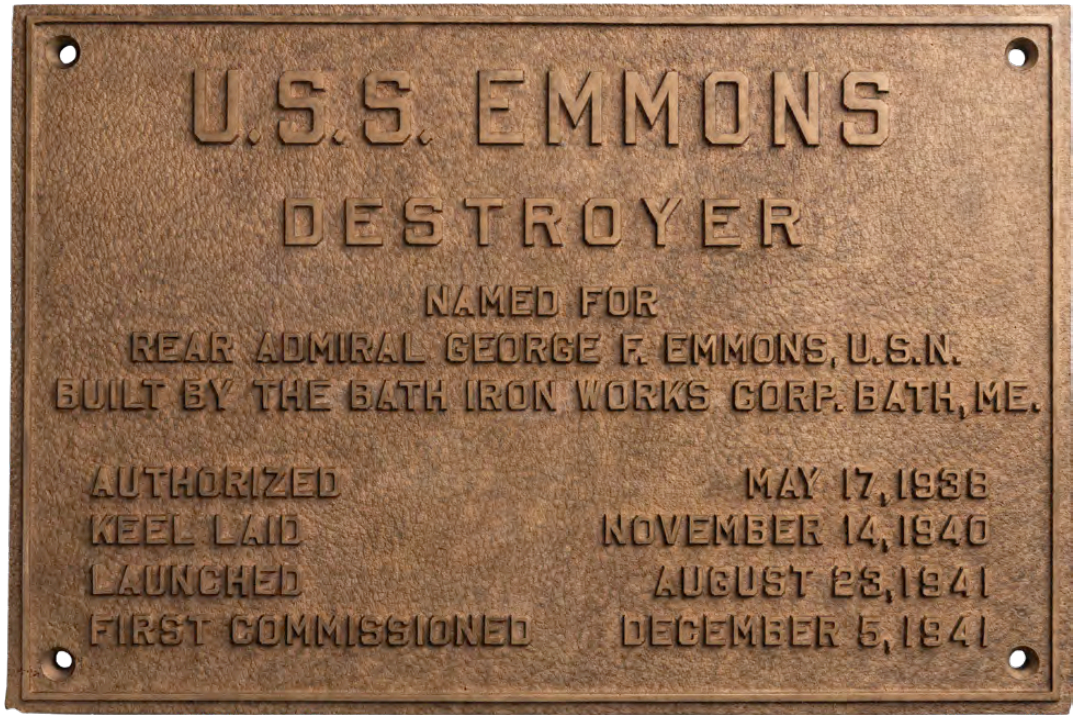
Seized by a member of the 8th Naval Construction Battalion during the Battle of Iwo Jima from a member of the Imperial Japanese forces, this Nambu Type 90 three-barrel flare gun was used to communicate, usually as distress signals. Relatively rare, three versions of less than 6,000 pieces were manufactured between 1930 and 1945. This first version, with its break-open lever and wood grip, is the rarest of the three issued to the Imperial Japanese forces. The barrels were made from blued steel, and the body of the weapon was painted with black lacquer.

F4U-1D Corsair Engine and Center Wing Section

USS *Intrepid* (CV 11)

Underwater Archaeology Branch

On 14 March 1945, USS *Intrepid* launched 19 F4U-1D Corsairs on a mission targeting the airfields on Japan's southernmost main island, Kyushu. Two of the 19 Corsairs that took part in the raid did not return; one of them made an emergency water landing off the coast of Saiki. Decades later, an engine with a propeller was ensnared in a local fisherman's net and the aircraft wreck was discovered. The engine, attached propeller, and a portion of a wing were subsequently recovered and eventually put on display at Saiki's Yawaragi Peace Memorial Hall. In 2015, the decision was made to return the artifacts to the United States as a gesture of goodwill on the 70th anniversary of the war's end. The aircraft parts were sent to NHHC's Underwater Archaeology Branch for assessment, documentation, and stabilization treatment. No identifying markers survived the crash or years in the harsh ocean environment; however, the Pratt & Whitney R-2800 engine and the distinctive gull wing confirm the aircraft as a Corsair. In 2023, the aircraft components were placed on loan to the ex-USS *Intrepid* at the Intrepid Museum in New York.



Builder's Plaque

USS *Emmons* (DMS 22)

Underwater Archaeology Branch

Commissioned in December 1941 as a destroyer, USS *Emmons*, was later converted and reclassified as a high-speed minesweeper. In March 1945, the ship was ordered to investigate and clear the area of mines in advance of the Allied invasion of Okinawa scheduled for 1 April. During the invasion, *Emmons* was on patrol when the ship was targeted during an intense wave of mass kamikaze attacks known as Operation Kikusui, with five Japanese aircraft striking the ship. As a result of the attack, 60 sailors died and another 77 were wounded. The damage to *Emmons* was too severe and the following day the ship was sunk to prevent it from enemy capture. The ship's commanding officer, Commander Thomas J. Grogan, was awarded the Navy Cross, and *Emmons* received a Navy Unit Commendation for Okinawa and five battle stars for World War II service.

The wreck site lies in approximately 40 meters of water and over the years became a popular site for scuba divers. The ship's builder's plaque, cast from solid brass and bearing the ship's namesake, builder, and original classification as a destroyer remained in place on the wreck site for 65 years. Sometime around 2010, the plaque was removed from the wreck without authorization by a scuba diver and later returned to the Navy through a joint effort by the ship's veterans association, local dive groups, and the Naval Criminal Investigative Service.

Musical Instrument Case

National Museum of the American Sailor

Navy music has a rich history that dates back more than two hundred years. From a working standpoint, sailors used music to establish ship movements, battle rhythms, and special times of day like grog and chow. In the 1820s, Navy bands became more popular, and, by 1825, USS *Constitution* had a 20-piece band. Yet beyond official work purposes, sailors informally used music to build camaraderie and pass time during long voyages at sea. Accordions have long been a popular instrument with Navy sailors because of their small size, portability, and relatively low cost. A versatile instrument, accordions can play melodies and chords at the same time. This musical instrument case (circa 1941) held an accordion owned by sailor Robert Stanich. Stanich painted this case with names and symbols to represent the ports and places he visited while serving in the Navy during World War II.

U.S. Navy Seabees Pillow Cover

U.S. Navy Seabee Museum

Mike Wolfe and Frank Fritz from the reality television show *American Pickers* met George Magalaras in Dover, Delaware, during the fourth season of the show, in an episode entitled "The Elephant in the Room." When Builder First Class Juan Selvera watched this episode, he contacted the *American Pickers* and asked them to donate the pillow to the U.S. Navy Seabee Museum, which they did.

The pillow came from George Magalaras's stepfather, Lloyd F. Plummer. Born in April 1901, Plummer was a machinist and supervised factories before the attack on Pearl Harbor. After Pearl Harbor, Plummer was inspired to enlist in the Navy Seabees because he knew the Navy was looking for trained tradesmen. He was signed on as soon as he walked in the door, being an experienced machinist and the supervisor of a factory. At the age of 41, Plummer was appointed to the rank of chief petty officer. According to Magalaras, his stepfather landed the day after the marines landed on Saipan and witnessed the civilians jumping off of the cliffs, because the Japanese soldiers said the Americans would torture them. The pillow was given to him by a Japanese family who befriended him.

Von Tempsky Wall

National Naval Aviation Museum

When World War II came to the Hawaiian Islands, Alexa Von Tempsky Zabriskie continued her prewar practice of opening the grounds of her estate, Erehwon (nowhere spelled backward), to naval aviation personnel assigned to the Naval Air Station (NAS) Puunene on Maui. Her hospitality became legendary for hundreds of aviators who passed through NAS Puunene. Zabriskie's peacetime practice of having guests sign her den wall continued throughout the war, with the addition of photographs and squadron insignia.

Fletcher Pratt Wargame Model

Naval War College Museum

Fletcher Pratt was an American author who is most well-known for inventing "The Fletcher Pratt Naval Wargame." This game was developed by a group from New York with an interest in naval affairs and had a collection of models to use. Each player had a fleet and would in turn attack the other player's ships. Hits to the enemy ships were tallied, with differences between striking the hull above and below the waterline. A total number of hits in the same area would result in a loss of that ship's capability (less speed, guns no longer functioning, and so on) to simulate real-world conditions. Firing of guns was executed by using a commonly available pistol firing a no. 6 shot. While initially created for amusement, this game evolved, incorporating real-world information on ship characteristics and naval strategy. It drew the attention of those at the Naval War College. Officers from the Naval War College traveled to New York to play in Pratt's games and incorporated some of his ideas into the rules for games played at the college.

Rubber Topographic Map of Iwo Jima

Naval War College Museum

This terrain model of the island of Iwo Jima was used during the planning of the invasion and preinvasion bombardment. Produced by what became the Naval Photographic Center, this rubber model was designed to be rolled for transport, then unrolled and mounted for use. Terrian models such as this were created to familiarize air crews and shipboard bombardment personnel with their targets, providing topographical information in ways that standard photography cannot. Three days prior to the invasion, shipboard and aerial bombardments commenced, ultimately with limited success as the Japanese fortifications were greatly underestimated. The amphibious landings started on 19 February 1945, and by 26 March, the island was deemed secure. This operation was one of the bloodiest of World War II, with more than 6,800 U.S. personnel killed and 19,000 wounded.

Members of USS *Barb*'s demolition squad pose with the battle flag after the conclusion of their 12th war patrol in Pearl Harbor, Hawaii, in August 1945. On 22–23 July 1945, these men planted an explosive device on a train in Karafuto, Japan, destroying it. This action is represented by the train at the bottom of this flag.

Battle Flag
USS *Barb* (SS 220)

Submarine Force Museum

During World War II, U.S. Navy submarine crews created unique flags that reflected their successes during a war patrol. This battle flag from the 12th war patrol of *Barb* in 1945 captures all of the gallantry, ardor, and ingenuity of the submarine force. Across the top are all of the commendations earned by the ship and its crew, to include Commander Eugene Fluckey's Medal of Honor and the ship's Presidential Unit Citation. The rest of the flag is packed with symbols of varying nuances to signify the *Barb*'s "kills," including types of ships engaged, ships sunk and damaged, land-based installations disabled, and even a train destroyed. The demolition of the train in particular marked a historic mission during which a small party landed ashore on the Japanese home islands and planted explosive charges to disable a rail supply line, inadvertently destroying an inbound train in the process. Exploits like those depicted on this battle flag are sea stories many submariners know by heart and retell with pride.

USS *Indianapolis* (CA 35)

Underwater Archaeology Branch

In the first minutes of 30 July 1945, an explosion severed the bow of USS *Indianapolis*. Seconds later, another explosion just forward of the bridge temporarily engulfed the superstructure in flames. The ship was hit by two torpedoes from Japanese submarine *I-58* while en route to Leyte after completing a top-secret mission to carry components for the atomic bomb "Little Boy" to Tinian. The damage sustained was catastrophic. In approximately 15 minutes, *Indianapolis* began a rapid three-mile descent to the bottom of the Philippine Sea. The proud legacy of the cruiser would forever be marred by the controversial circumstances of its loss, the Navy's failure to rescue its stranded crew in a timely manner, and the service's treatment of its skipper. Only 316 of the crew survived the sinking and four days in the sea.

The wreck was discovered by Paul G. Allen's R/V *Petrel* in 2017. The incredible state of preservation provided NHHC archaeologists and historians with a unique opportunity to corroborate the 1945 records with the actual wreckage. The data matched survivor accounts, such as the movement of the ship after the hits and detachment of the bow. This side-scan sonar image shows the wreck site and debris field of *Indianapolis*'s final resting location at a depth of approximately 18,000 feet.

USS *Indianapolis*, steaming at high speed, while running trials at the time of its completion, 1932.

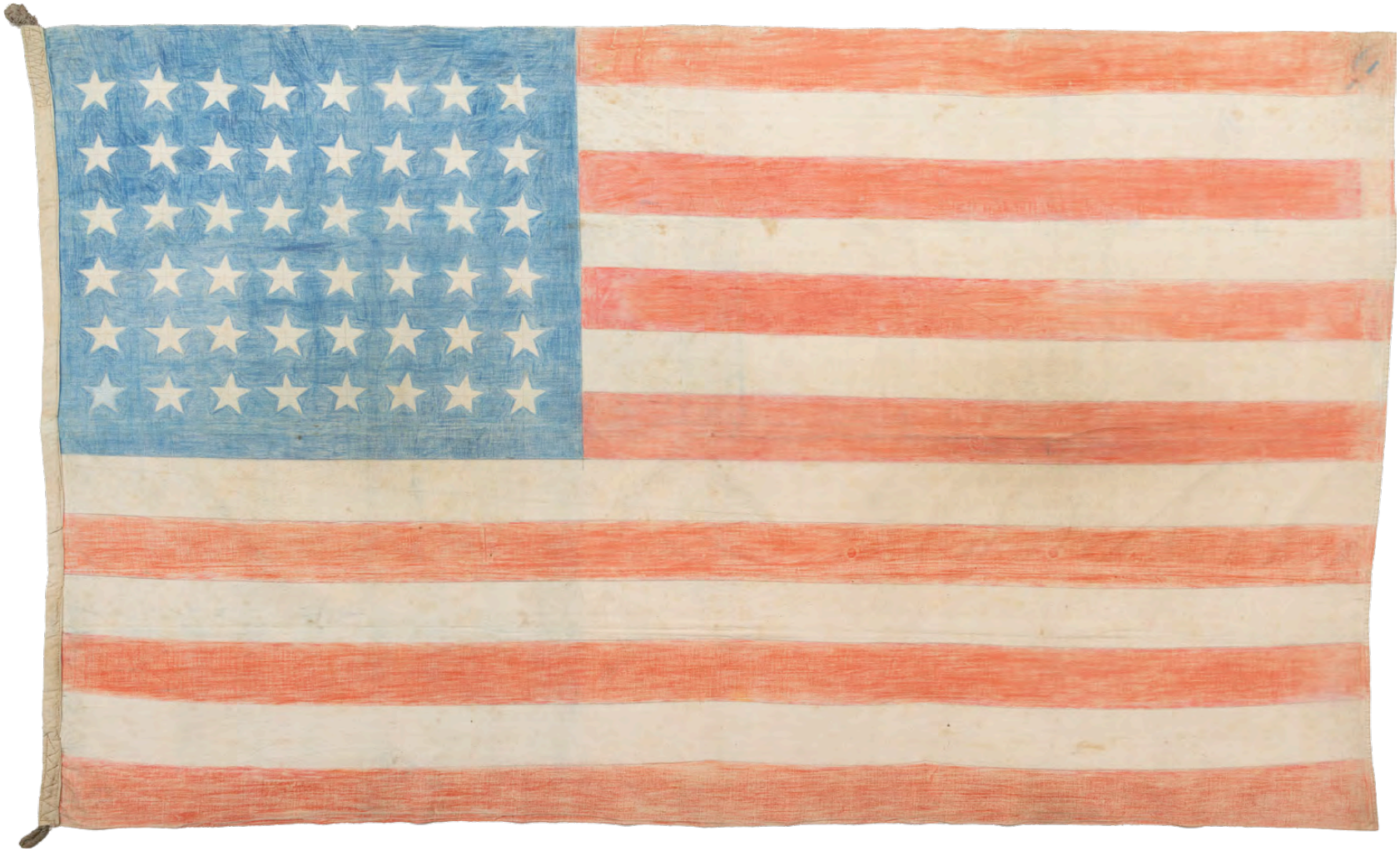
The side-scan sonar image captures the entire wreck site, including the bow, which was blown off by the first torpedo hit, in the top right corner. The ship continued to travel forward for more than a mile before capsizing, and sinking. It hit the seafloor with such force that the impact crater is still visible 80 years later. (Estate of Paul G. Allen)

"Little Boy" atomic bomb resting on a cradle prior to being loaded into the bomb bay of *Enola Gay* in August 1945. The safety fuses are seen in the middle of the bomb. (NARA)

Safety Fuse

Central Artifact Collection
Curator Branch

This is one of three safety fuses from the "Little Boy" atomic bomb that was dropped on the Japanese city of Hiroshima on 6 August 1945. The aircraft selected to deliver the bomb was a Boeing B-29 Superfortress bomber named *Enola Gay*. The weight of the bomb was a concern for the flight crew. In order to prevent an unplanned detonation in the event the aircraft crashed during take-off, Navy Captain William Parsons, the weaponeer for the mission, chose to arm the bomb in flight. Assisted by U.S. Army Second Lieutenant Morris Jeppson, they replaced this safety fuse with a red colored arming fuse that allowed an electrical connection from the battery to the firing mechanism of the bomb. Captain Parsons was given this safety fuse, as well as a statement by Second Lieutenant Jeppson verifying the history of the fuse. The atomic bombings of Hiroshima and Nagasaki resulted in the surrender of Japan on 2 September 1945 aboard USS *Missouri* (BB 63) and helped give birth to the nuclear age.



Handmade American Flag

Central Artifact Collection
Curator Branch

While being held at the Japanese Prisoner of War Camp Omori, Tokyo, Navy Lieutenant Raymond Jakubielski and other POWs constructed this handmade American flag. When rumor of the Japanese surrender reached the prisoners, Jakubielski thought it would be appropriate to have an American flag flying when they were liberated. A bedsheet and colored pencils were used to create the flag. On 29 August 1945, the former prisoners ran this flag up a pole with enthusiasm as the camp was liberated. After Jakubielski passed away in 1971, his family donated the flag to the Navy.

Surrender Table

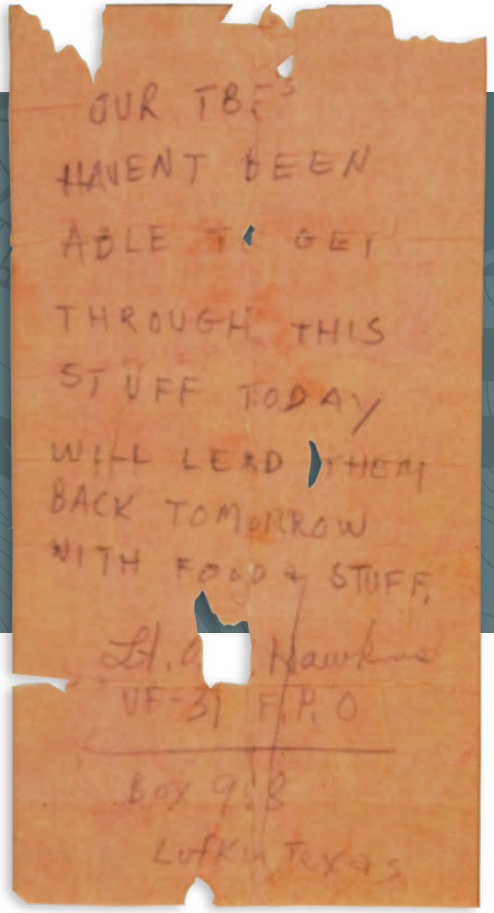
U.S. Naval Academy Museum

This table was where Fleet Admiral Chester W. Nimitz signed the Instrument of Surrender document on 2 September 1945, signifying Japan's formal surrender and the end of hostilities. In the four years leading up to this moment, Japan had lost its fleet, was nearly strangled by submarines and air attack, had endured the atomic bombing of Hiroshima and Nagasaki, and faced an impending invasion. In a precedent-making move, Japan's Emperor Hirohito delivered a national radio address urging his subjects to cease fighting and lay down their arms.

The signing ceremony took place aboard USS *Missouri* (BB 63) in Tokyo Bay, with Nimitz serving as Representative of the Allied Powers for the United States. The table was borrowed from *Missouri*'s enlisted mess, the green cloth came from the ship's wardroom, and the chair was provided by HMS *Duke of York* (17).

Below: Original plaque marking the location of the signing of the instrument of formal surrender of Japan on USS *Missouri* (BB 63). Tremendous polishing wore the letters down and, in 1988–89, the USS *Missouri* Association fabricated a replacement to preserve the original.

Plaque engraving:
U.S.S. MISSOURI
OVER THIS SPOT ON 2 SEPTEMBER 1945, THE INSTRUMENT OF FORMAL SURRENDER OF JAPAN TO THE ALLIED POWERS WAS SIGNED, THUS BRINGING TO A CLOSE THE SECOND WORLD WAR. THE SHIP AT THAT TIME WAS AT ANCHOR IN TOKYO BAY.
LATITUDE 35° 21' 17" NORTH ~ LONGITUDE 139° 45' 36" EAST



Message Bag and Note

National Naval Aviation Museum

Victory over Japan Day, also known as V-J Day, brought the promise of liberation for Allied prisoners held captive in Japan. This note was dropped by message bag from an aircraft flown by Lieutenant Arthur R. Hawkins while assigned to USS *Cabot* (CVL 28). During a flight over Japan, he noticed a lone man standing by a riverbank near the Omori prisoner of war camp. The note stated that Hawkins could not get there that day, but that help would arrive on the next day. The man, an Australian prisoner of war named Matt Clift, returned the note to Hawkins in 1986. It was later donated to the National Naval Aviation Museum.

Alberich Sample
Underwater Archaeology Branch

U-1105 was built as a modified Type VII-C German submarine at the Nordseewerke shipyard, Emden, Germany, and commissioned into the Kriegsmarine (the German navy) in June of 1944. It was one of a very limited production of submarines equipped with an experimental synthetic rubber skin designed to counter Allied sonar devices. During the spring of 1945, *U-1105* patrolled Allied convoy routes in the North Atlantic and sank HMS *Redmill* (K 554). After Germany's capitulation in May of 1945, *U-1105* surrendered and was given to the United States as a war prize. The submarine's unique rubber-tiled skin and its counter-sonar capabilities were studied by the Naval Research Laboratory and Massachusetts Institute of Technology's Acoustic Laboratory. Subsequently, the submarine was used for explosives testing and *U-1105* was sunk in 1949 at the mouth of the Potomac River southwest of Piney Point, Maryland.

The wreck was listed in the National Register of Historic Places in 2001. In September 2024, *U-1105* was investigated by NHHC and the Battle of the Atlantic Research and Expedition Group. Sections of its rubber coating were removed from the hull for further study. The black rubber coating on the hull originally earned *U-1105* the nickname "Black Panther." This coating was comprised of hundreds of anechoic tiles that contained air cavities within them to aid the submarine in avoiding sonar detection, as well as dampening sound coming from within the submarine itself such as the noise of its engines.

USS *Prinz Eugen* (IX 300) Bell

Central Artifact Collection
Curator Branch

The practice of a victor claiming prizes of war through conflict is a long-standing one, with documented occurrences stretching back thousands of years. At the end of World War II, the Allied powers divided ships and equipment from the defeated German forces among themselves. One such war prize, the German heavy cruiser *Prinz Eugen,* was provided to the Navy and commissioned into Navy service as USS *Prinz Eugen*. In January 1946 *Prinz Eugen* was in Boston with a mixed crew of U.S. Navy and German sailors. The ship left Boston, stopping by Philadelphia, then transiting the Panama Canal to its destination of Bikini Atoll for the atomic weapons testing in July 1946. The purpose of the test was to ascertain the effectiveness of an atomic bomb against an enemy fleet. The ship survived the tests and as it was being towed to Kwajalein, began to list and sank on 22 December. The vessel remains there today.

The ship's bell from *Prinz Eugen* came to NHHC from the Philadelphia Naval Shipyard, and was likely removed immediately before the vessel's trip to Bikini Atoll. The German national eagle and Nazi Party swastika are prominently displayed on the bell's surface.

Flying the U.S. Navy jack and marked with its U.S. Navy hull number IX-300, USS *Prinz Eugen* is shown at Bikini Atoll in preparation for Operation Crossroads on 14 June 1946.

1944
1945

1946–90

1991
1992
1993
1994
1995
1996

Through the mid–late twentieth century, containing the spread of communism was the predominant foreign policy of the United States and its allies. As established by the Truman Doctrine, the United States shifted from isolationism to global interaction, actively working to exert political, economic, and when needed, military pressure in an effort to assist democratic countries under threat of authoritarian powers. This expanded foreign policy necessitated using the Navy as a means of power projection and direct military engagement.

A dynamic global landscape demanded the U.S. Navy keep pace with geopolitical changes as well as emerging and developing technologies, strategies, tactics, and weapons of war. As reliance on naval aviation increased, the aircraft carrier became the capitol ship of the twentieth century. Propellers gave way to jet-powered aircraft as carriers became larger. Nuclear-powered propulsion furnished carriers and submarines with unlimited range, and submarine-based nuclear ballistic missiles provided the Navy with a strategic nuclear deterrent that was difficult if not impossible to locate. In addition to technological advancements, societal changes in American culture occurred and in 1975 Public Law 94-106 was signed, opening the military service academies to women. A year later the first women, Class of 1980, entered the U.S. Naval Academy.

Though large-scale naval battles such as those fought during World War II did not occur during this period, the U.S. Navy was constantly engaged in protecting the safety, security, and interests of the American public. From supporting the blockade during the Cuban Missile Crisis in 1962 to serving as recovery ships during the Mercury, Gemini, and Apollo space missions to participating in the “Tanker War” in the Arabian Gulf during the 1980s, the personnel serving in the U.S. Navy demonstrated their professionalism and expertise during this turbulent period in our nation’s history.

Start of Able Bomb
by Charles Bittinger

Oil on Canvas, 1946
U.S. Navy Art Collection

The Navy had three artists at Operation Crossroads to document the detonation of the third and fourth atomic bombs, which took place in the middle of the Pacific at Bikini Atoll. The tests were developed to study the impacts of the newly created and powerful atomic bombs on warships. Painted from the perspective of the atoll, this study shows the cloud towering over the ships of the target fleet. Although the artist, Charles Bittinger, was nearby on a support vessel, he was not on the island as no one was allowed within five miles of the atoll during the blast.

Operation Highjump Goggles

Naval War College Museum

Roy Hall served as a radio operator in Operation Highjump, the Navy's effort to establish the Antarctic research base Little America IV. Operation Highjump was intended to study the feasibility of building infrastructure to support sustained military operations in the harsh climate near the South Pole. Hall and his fellow sailors wore these goggles as part of their extreme cold weather gear.

Toolbox and Contents

Puget Sound Navy Museum

Look carefully at this toolbox and you will see it holds almost an entire life's story in the tools, special buttons, and photographs contained inside. Lawrence L. Chase owned this toolbox and used it during the many years he worked at the Puget Sound Naval Shipyard's Machine Shop 31. His machine shop, one of the oldest shops in the shipyard, was responsible for repairing and testing ship components and for manufacturing new parts. During the time he worked for the shipyard, it was more common for employees to carry their own toolboxes, while most equipment is provided onsite today.

Many of the items inside are from the 1950s, reflecting the period in which they were used. In addition to the essential tools employed in his daily work, the toolbox also holds personal mementos, offering a glimpse into the man behind the trade. These items balance the industrial nature of his job with a more intimate, personal side, making the toolbox not just a functional object, but a reflection of his life and experiences.

PB4Y-2s were acquired by the Navy for long-distance patrol missions. This photograph of PB4Y-2 (Bureau Number 59351) was taken at Naval Air Station Patuxent River, Maryland, on 11 July 1944.

Keystone Fairchild F-8 Aerial Camera

Underwater Archaeology Branch

In 1950, a U.S. Navy PB4Y-2 Privateer was conducting a reconnaissance mission over the Eastern Baltic Sea when the aircraft was shot down by Soviet fighter aircraft. Search efforts were conducted immediately following the crash but were unsuccessful in locating the aircraft or any of its 10 crew members. A cooperative investigation between Defense POW/MIA Accounting Agency (DPAA), NHHC, and other external parties investigated a wreck believed to be the crash site of the lost Privateer. Several artifacts were recovered and sent to the NHHC Underwater Archaeology Branch for assessment and conservation treatment. One artifact recovered was a Keystone Fairchild Type F-8 aircraft camera, which was used in oblique aerial view reconnaissance by the U.S. Air Force and Navy. While no serial numbers or manufacturing markers survived, conservators found that the camera still contained the undeveloped film. Despite 70 years underwater, the film could still be developed, though no viable images remained. The presence of the camera helps support the assertion this is the crash site of the lost Privateer.

Service Dress Blue Uniform

Naval War College Museum

Eleanor Edwardson received an appointment to attend the indoctrination class for female officers (W-3) at Naval Training Station Newport, Rhode Island. In May 1950, she reported to the Naval Security Group at Nebraska Avenue in Washington, DC, where her duties included encoding and decoding radio messages containing sensitive information. Ensign Edwardson worked for the Armed Forces Security Agency, which became the National Security Agency after 1952.

Eleanor Edwardson, *far left,* is part of a group of women being sworn into the regular Navy by Vice Admiral John Price on 30 December 1949.

Pattern shop at Puget Sound Navy Yard, 1912.

Anchor Chain Wooden Pattern

Puget Sound Navy Museum

This wooden pattern, a 72-inch-long section of chain with giant links, is a life-size tool for creating a ship's anchor chain. It was used in the Puget Sound Naval Shipyard's pattern shop. The chain would first be crafted in wood, helping shipyard workers to refine and perfect the precise design. Then, it would be used to create a mold, into which molten metal would be poured to cast the anchor chain in metal.

Historically, the Puget Sound Naval Shipyard's pattern shop and foundry played a vital role in producing the many critical components needed for shipbuilding and repair. However, as new fabrication technologies such as computer-aided design (CAD) have been developed and the production process has evolved, both the pattern shop and foundry have closed. Today the U.S. Navy operates a single foundry in Philadelphia.

This pattern would have been used to craft the chain for a large warship, but the links are still smaller than those found on a modern *Nimitz*–class aircraft carrier. On today's aircraft carriers, the anchor chain consists of 684 massive links, each weighing 350 pounds.

U.S. Navy sailors conduct maintenance on the anchor chain of USS *Theodore Roosevelt* (CVN 71) on 12 February 2026. (DVIDS)

USS *Nautilus* (SSN 571)

Submarine Force Museum

USS *Nautilus* is the submarine that changed the world. It is the world's first nuclear submarine, powered by the S2W reactor created by Westinghouse Electric and the Bettis Atomic Power Laboratory. Commissioned in 1954, *Nautilus* set several records during its shakedown trials including longest distance travelled, longest time submerged in a single transit, and the first time a submarine sustained high speeds while submerged for greater than an hour. It was the first submarine to successfully reach the North Pole and received a Presidential Unit Citation for this accomplishment. *Nautilus* was also the first submarine to incorporate installed emergency breathing air systems for the crew. Now a National Historic Landmark and the state ship of Connecticut, *Nautilus* is incomparable in historical significance for the U.S. Navy and truly is the "first and finest."

Above: Launching of USS *Nautilus* at the Electric Boat Company, in Groton, Conn., on 21 January 1954. *Below:* Ex-USS *Nautilus* as a museum ship in the Thames River adjacent to the U.S. Navy's Submarine Force Museum. The glass structure, or deck house, was added in the 1980s when it became a museum ship. (U.S. Navy)

Earrings

Submarine Force Museum

These 14-karat gold earrings bear Danish physicist Niels Bohr's classic planetary model of the atom, which has been informally adopted as the symbol of nuclear power around the world, and a stylized U.S. Navy submarine etched on the face. These earrings belonged to Ruth Masters Rickover—wife of Admiral Hyman G. Rickover, the "Father of the Nuclear Navy."

Ice Climbing Gear

U.S. Navy Seabee Museum

The Navy Seabees have a proven reputation for building in all types of challenging environments, including some of the most inhospitable locations on the planet. In 1955, the Seabees began deploying yearly to the continent of Antarctica. As participants of Operation Deep Freeze, their mission was to build and expand scientific bases and airstrips. The first deployment included 181 Seabees, who constructed a 6,000-foot ice runway on McMurdo Sound. Despite a destructive blizzard, the airstrip was completed in time for the advance party of Deep Freeze II to become the first men to arrive at the South Pole by airplane. The Seabees next assignment was to build a permanent scientific base on the continent.

Arctic research and development started in 1944 when the Bureau of Yards and Docks (BuDocks) sent a reconnaissance party and, later, Construction Battalion Detachment 1058, to Point Barrow to survey and drill for oil. Numerous problems, including frozen equipment and inadequate clothing, highlighted the need for gear specific to polar exploration. BuDocks created the Naval Civil Engineer Laboratory, known as “the Lab,” to conduct research and develop equipment and techniques for producing airfields, roads, and parking areas on both annual and perennial snow fields.

Crampons like this are placed over the wearer’s boots to provide traction in snow and ice. Pitons and ice screws are used as anchors in ice for safety while the rolled crevasse ladder is easily transported and deployed to cross gaps in the ice.

"Liberty Cuffs"

Puget Sound Navy Museum

This classic uniform, known as service dress blues, has been a staple of enlisted sailor's wardrobe since 1894, making them instantly recognizable. While the core design of dress blues has remained unchanged over time, sailors found creative ways to express their individuality while wearing them, sometimes going to great lengths to personalize their uniforms. During the mid-twentieth century, sailors making port calls in the Pacific would often have a tailor embroider the insides of their uniform cuffs with designs like dragons or sharks. While on liberty, they could roll up their sleeves, exposing the detailed embellishments. Although technically against uniform regulations, it was a popular practice to personalize the uniform, and they became known as "liberty cuffs."

This example was worn by Gary "Dutch" Kaiser. Kaiser joined the Navy during the Cold War and started in the aviation community, as illustrated by the aviation fire control technician rating badge on this uniform. He later volunteered for submarine service where he spent the rest of his Navy career. In the 1970s, the Navy began allowing sailors to wear civilian clothing while on liberty, rather than their dress uniform, leading to a decline in this embroidery practice.

“Shoot Me Here” Seabee Patch

U.S. Navy Seabee Museum

This Cold War–era “Shoot Me Here” Seabee patch was worn over the left breast pocket on Seabee “greens” utility uniforms from 1959 until 1965. The Seabees transitioned away from the patch because the white was easily spotted at a distance and became a potential target for enemy riflemen at the beginning of the Vietnam conflict. While harkening back to the World War II Seabee patch, it was discontinued as fighting escalated. Seabees preferred the black embroidered pocket logo that is still found on every Seabee’s working uniform.

Seabees during a training evolution shown wearing the “shoot me here” patch.

Miniature Helmet and Vest

National Naval Aviation Museum

In order to test the biological impacts of space flight on living animals, apes and monkeys were used in early test missions. This miniature helmet and vest were worn by the squirrel monkey Ms. Baker when she and another primate named Able made a suborbital flight atop a Jupiter missile in May 1959. The primates rode into space nestled in a cylinder made to fit them snugly. Though Able died shortly after the flight, Ms. Baker lived until 1984 and became a celebrity.

Section of Nuclear Control Rod Made of Hafnium

U.S. Naval Academy Museum

This section of a nuclear control rod is made of hafnium, a rare material that is found combined in solid solution with zirconium. It was first made available as pure metal in the late 1950s. Most of the world's hafnium produced today is used in the manufacturing of control rods for nuclear reactors. Control rods are used in nuclear reactors to control the rate of fission by inserting them into the core and adjusting them as needed. The rods, in turn, impact the reactor's thermal power output, which alters the rate of steam production, and the electrical power output of the power station.

Nuclear energy changed the Navy and its warfighting capabilities. Thanks to nuclear power, nuclear aircraft carriers can stay at sea for 30 years or more without refueling. This section of a nuclear rod was presented to the "Father of the Nuclear Navy," Admiral Hyman G. Rickover (1900–86), the celebrated Naval Academy graduate (1922) who led the Navy's nuclear program for decades.

Control Rod Cross Section

Submarine Force Museum

This is a small section of a hafnium control rod that was once operated by nuclear-trained U.S. Navy sailors aboard USS *Nautilus* (SSN 571) during its first years at sea. As a part of the S2W reactor plant, these control rods, located within the sealed reactor vessel, were remotely controlled to raise or lower the power of the nuclear reactor by either exposing or shielding the uranium fuel inside the rods, resulting in either more or fewer uranium fission reactions. Hafnium is preferred for use in U.S. Navy nuclear reactors because of its ability to absorb the neutrons that cause fission reactions. Though once operated to safely control the reactor on board the *Nautilus,* this section—dismantled and mounted as a commemorative plaque—is not radioactive.

Sled

USS *Skate* (SSN 578)

Submarine Force Museum

This wooden sled was brought aboard USS *Skate* (SSN 578) during its first voyage to the North Pole in 1958. Though it successfully reached "90 North" submerged under the ice, marking the second time in history a submarine had reached the North Pole, *Skate* was unable to surface there due to dangerous ice conditions. The ship instead surfaced 300 nautical miles away from the North Pole at Drifting Ice Station Alpha, a remote naval research laboratory, where the crew finally put the sled to use on the Arctic ice.

Zirconium Crystal

Submarine Force Museum

This is a zirconium crystal from the Bettis Atomic Power Laboratory, which is the seat of design and development of nuclear power for the U.S. Navy. The laboratory, founded in 1949, built the nuclear propulsion plants for the U.S. Navy's first nuclear submarines, aircraft carriers, and cruisers.

Zirconium is preferred for use in reactor design by manufacturers like Bettis for its strength and corrosion resistance. Zircaloy-1, an alloy of Zirconium, was selected by Admiral Hyman G. Rickover specifically for use in the first prototype submarine reactors, and newer iterations of this material are still utilized by the U.S. Navy nuclear power program.

Sean Connery Bee

U.S. Navy Seabee Museum

The Sean Connery Bee, named for the Scottish film star because the sculpture looked so good for its age, is a three-dimensional metal sculpture of the Seabee insignia on a wood stand with engraved plaque. It has six black arms with rate badges, and the Seabee tools of trade and a grease gun are welded in its hands. The Seabee mascot sculpture was completed in 1959 and restored in 2009 as part of the "Year of the Seabees and Civil Engineer Corps: Can Do" exhibit at the Navy Memorial Museum in Washington, DC. Upon conclusion of this exhibit, the sculpture was shipped to Port Hueneme, California, for display in the U.S. Navy Seabee Museum beginning in July 2011.

Soviet Propaganda Poster

Naval War College Museum

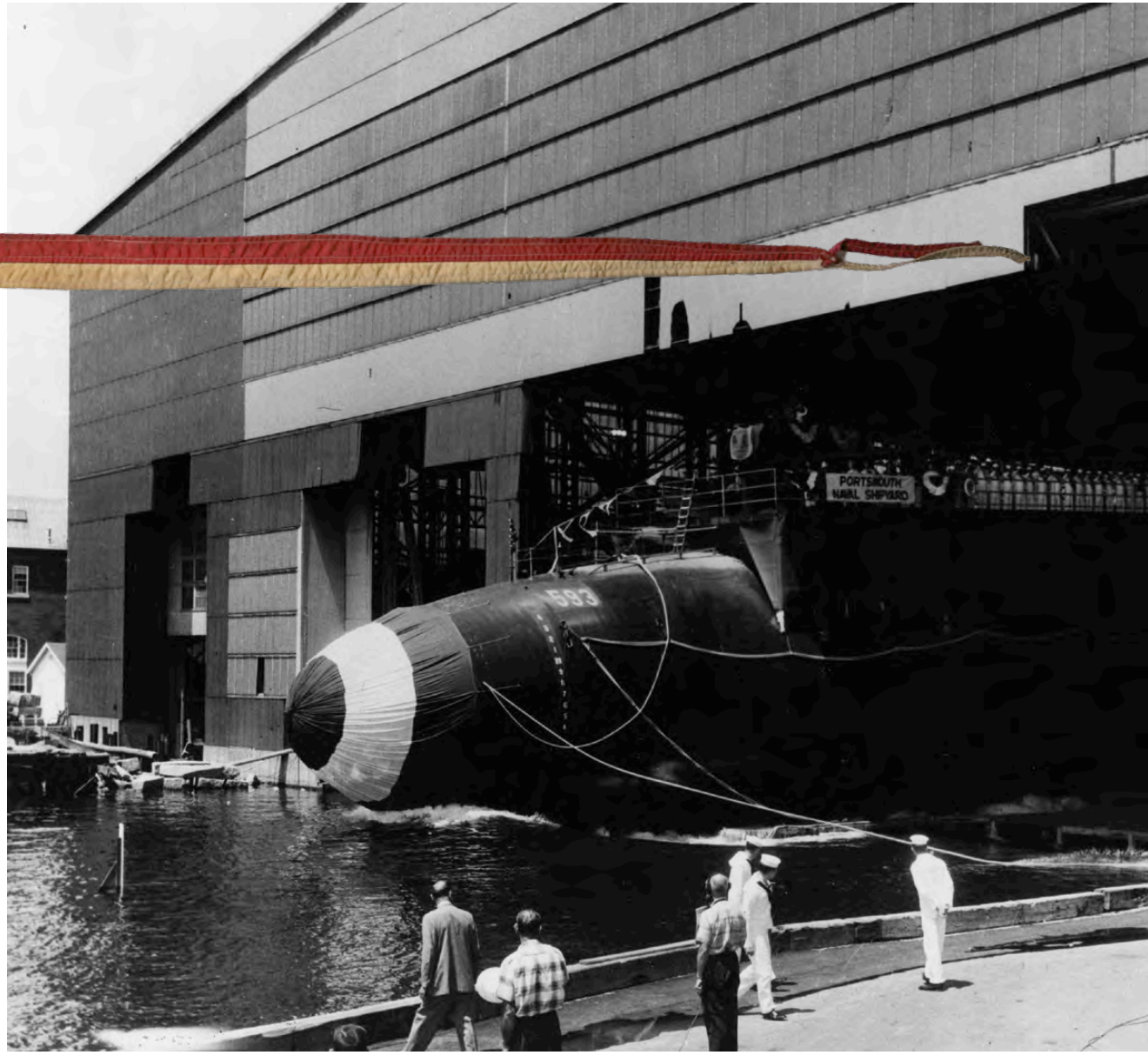
In May 1961, a United States Navy aircraft flying over the Arctic Ocean spotted an abandoned Soviet drifting ice station. The Central Intelligence Agency (CIA) launched Operation Coldfeet to recover as much useful material as could be found inside the station. On 28 May 1962, a B-17 Flying Fortress flown by CIA pilots dropped two men by parachute on to the station. The mission yielded information on the Soviet Union's Arctic research activities, including evidence of advanced research on acoustical systems to detect under-ice submarines and efforts to develop Arctic antisubmarine warfare techniques. One of the items they recovered was this propaganda poster encouraging a program to build communism.

Commissioning Pennant
USS *Thresher* (SSN 593)

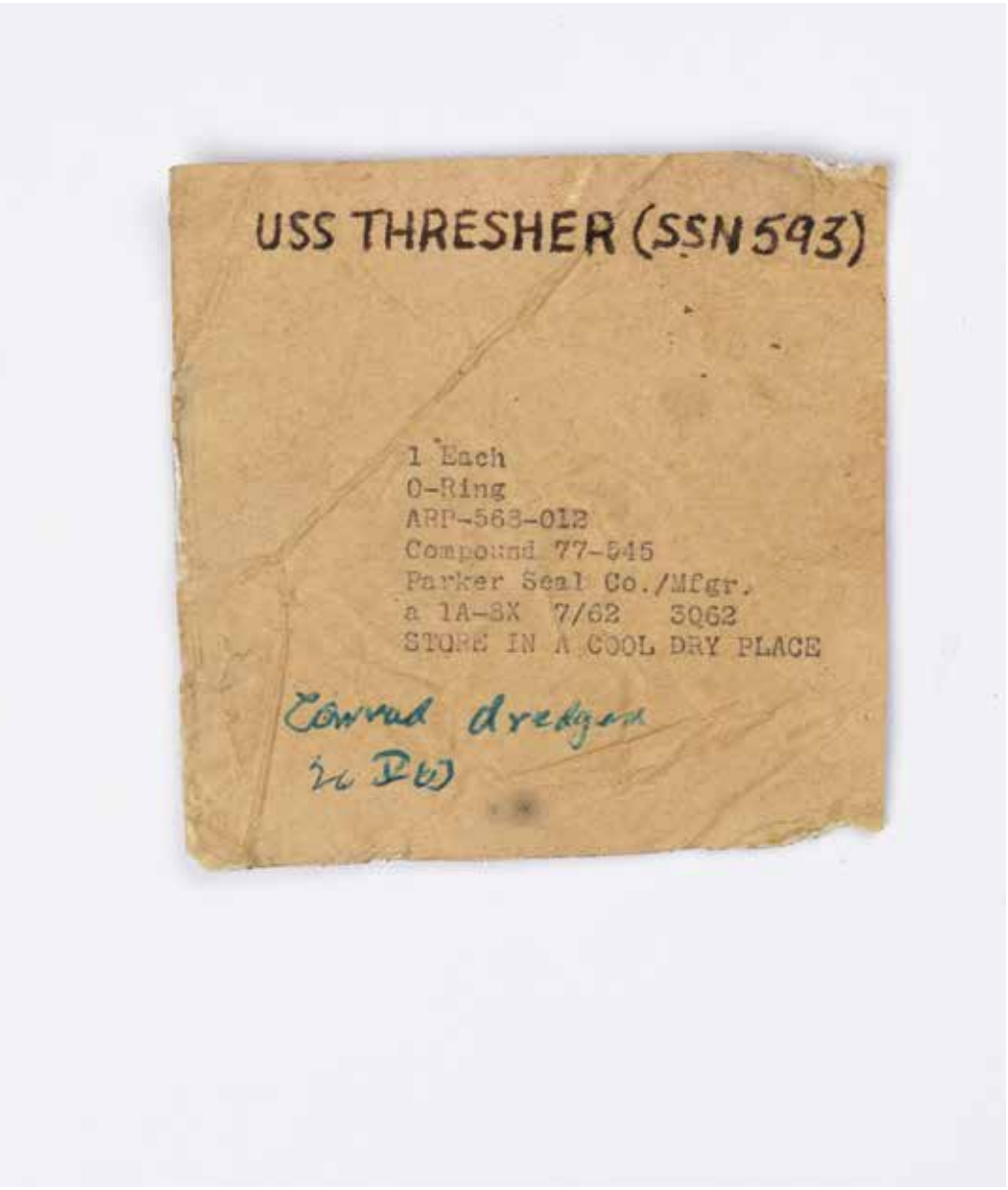
Submarine Force Museum

This pennant is from the commissioning ceremony of USS *Thresher* in 1961. Two years later, *Thresher* embarked on sea trials off the coast of Massachusetts, where the submarine was lost with all 129 hands on 10 April 1963 when mechanical failures resulted in flooding and a subsequent inability to emergency surface.

This tragedy marked the first U.S. Navy nuclear submarine to be lost at sea, joined only by USS *Scorpion* (SSN 589) in 1968. This resulted in immediate significant changes to submarine construction, maintenance, and quality assurance, known as the Submarine Safety Program (SUBSAFE). All U.S. Navy nuclear submarines built since the loss of *Thresher* have undergone the rigorous quality control inspections and testing required to be certified SUBSAFE.



Launching of USS *Thresher* (SSN 593) on 9 July 1960 at Portsmouth Naval Shipyard, Kittery, Maine. (NARA)



O-Ring

USS *Thresher* (SSN 593)

U.S. Naval Undersea Museum

Finding *Thresher*'s wreckage proved challenging using existing technology. The search operation exposed significant limitations in the Navy's deep-ocean capabilities, leading to the establishment of new deep submergence programs.

In late May 1963, the oceanographic research ship USNS *Robert D. Conrad* (T AGOR 3) recovered 15 of these O-ring packages. Stock numbers confirmed one of the packages could only have come from *Thresher.* Navy bathyscaphe *Trieste* located the remains of *Thresher* just over three months later.

Ship's Bell

USS *Enterprise* (CVN 65)

Central Artifact Collection
Curator Branch

The name *Enterprise* has been part of U.S. naval affairs since 1775 with the capture of a British supply sloop on 18 May 1775, subsequently renamed and used by the Continental Navy on Lake Champlain. Since then, the U.S. Navy continued to use this name, with eight ships named *Enterprise,* many with long and storied histories. *Enterprise* (CVN 65) was no exception as the world's first nuclear-powered aircraft carrier and the longest naval vessel ever built. In commission from 1961–2017, *Enterprise* saw service from the Cuban Missile Crisis to the Global War on Terrorism. The ship's main bell, shown here, is rather bland compared to other ship's bells with more elaborate decorative elements.

A long-standing maritime tradition is for sailors to use their ship's bell as a baptismal fount for their children, then inscribing their names in the interior of the bell. One or two names inscribed in a bell is rare when compared to the rest of the Navy's bell collection. More than three names are exceptionally rare. However, the interior of this bell reveals more than 50 names of people who used this bell as their baptismal fount, a testament to the long and historic service that *Enterprise* has provided to the Navy and United States.

"Beat Army" sign as seen from outside of the Gemini VI-A spacecraft. (NASA)

"Beat Army" Sign

U.S. Naval Academy Museum

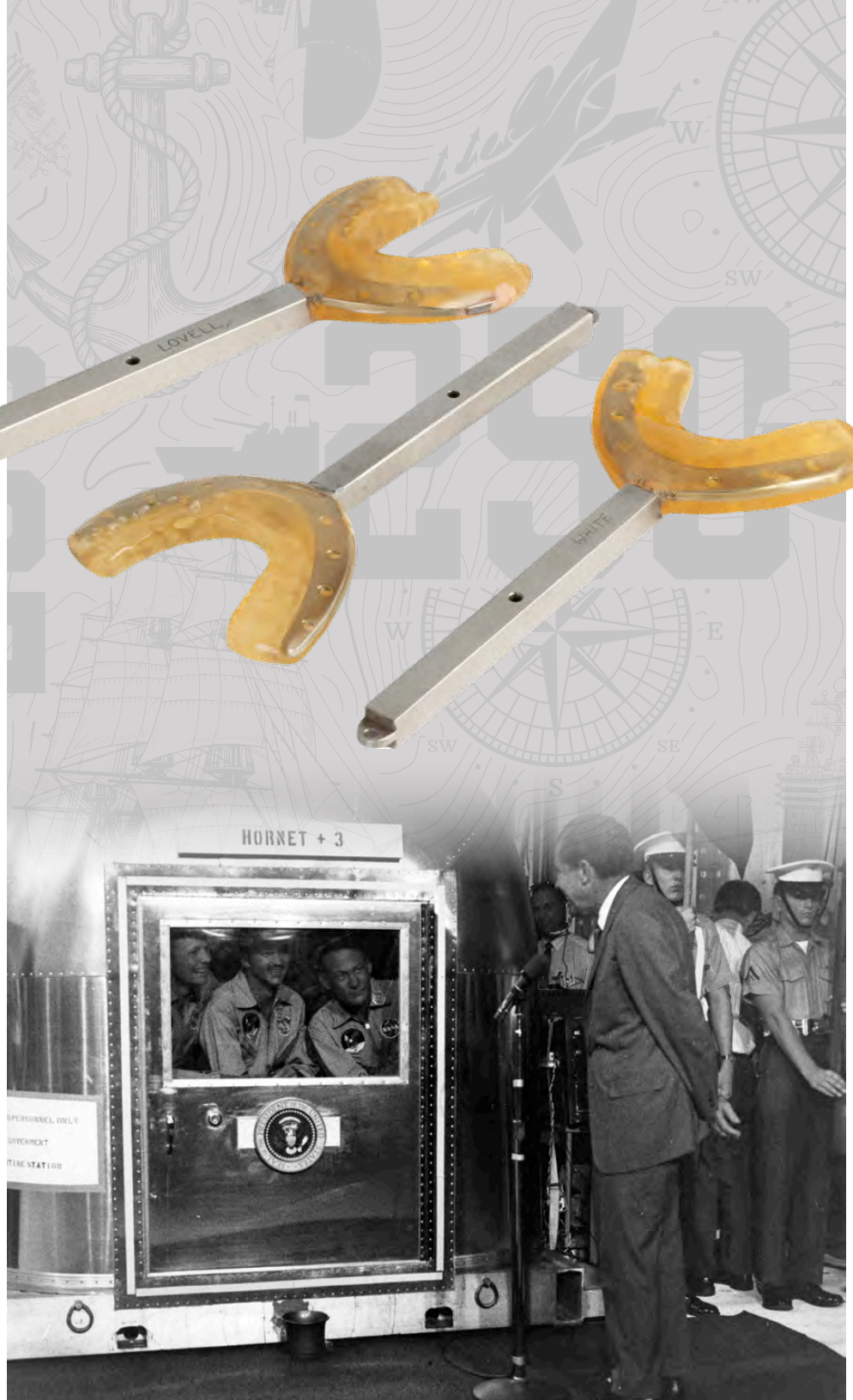
More NASA astronauts graduate from the U.S. Naval Academy than any other undergraduate institution, beginning with Alan Shepard (USNA '45). Astronauts and Naval Academy graduates Walter Schirra (USNA '46) and Thomas Stafford (USNA '52) showed pride in their alma mater in creating this "Beat Army" sign for the window of their Gemini VI-A spacecraft, making this the highest-flown "Beat Army" sign.

Gemini VI-A was a successful 26-hour mission whereby Schirra, command pilot, and Stafford, pilot, demonstrated the first successful docking and rendezvous in space with Gemini VII on 15 December 1965. Other goals of Project Gemini included practicing spacewalks, conducting orbital maneuvers, and proving the techniques required for its successor, the Apollo Program.

Astronaut Bite Boards

National Naval Aviation Museum

These bite boards were used by astronauts Neil Armstrong and Jim Lovell during their medical evaluation. They were part of a test to measure subtle head movements and how they related to eye deviation when the astronauts were exposed to ocular stimuli. NASA scientists collected data from this and measured to what degree an astronaut became disoriented while moving through space. Both Armstrong and Lovell began their flying careers as naval aviators.



Apollo 11 astronauts—Neil Armstrong, Michael Collins, and Edwin Aldrin Jr.—speak with U.S. President Richard Nixon from within their quarantine station on USS *Hornet* (CVS 12) on 24 July 1969.

One of the three Apollo 11 astronaut being hoisted into the cargo hatch of the HS-4 recovery helicopter by this Billy Pugh rescue basket during recovery operations of on 24 July 1969. (U.S. Navy)

Rescue Basket

Central Artifact Collection
Curator Branch

Helicopter Antisubmarine Squadron 4 was deployed on USS *Hornet* (CVS 12) during the Apollo 11 recovery mission. Helicopter 66, a Sikorsky SH-3D Sea King, used this Billy Pugh rescue basket to lift the three Apollo 11 astronauts, Neil Armstrong, Edwin Aldrin Jr., and Michael Collins from the command module in the Pacific Ocean on 24 July 1969. All three astronauts were flown to *Hornet,* where the slogan “Hornet Plus 3” was used to signify a successful recovery of the astronauts.

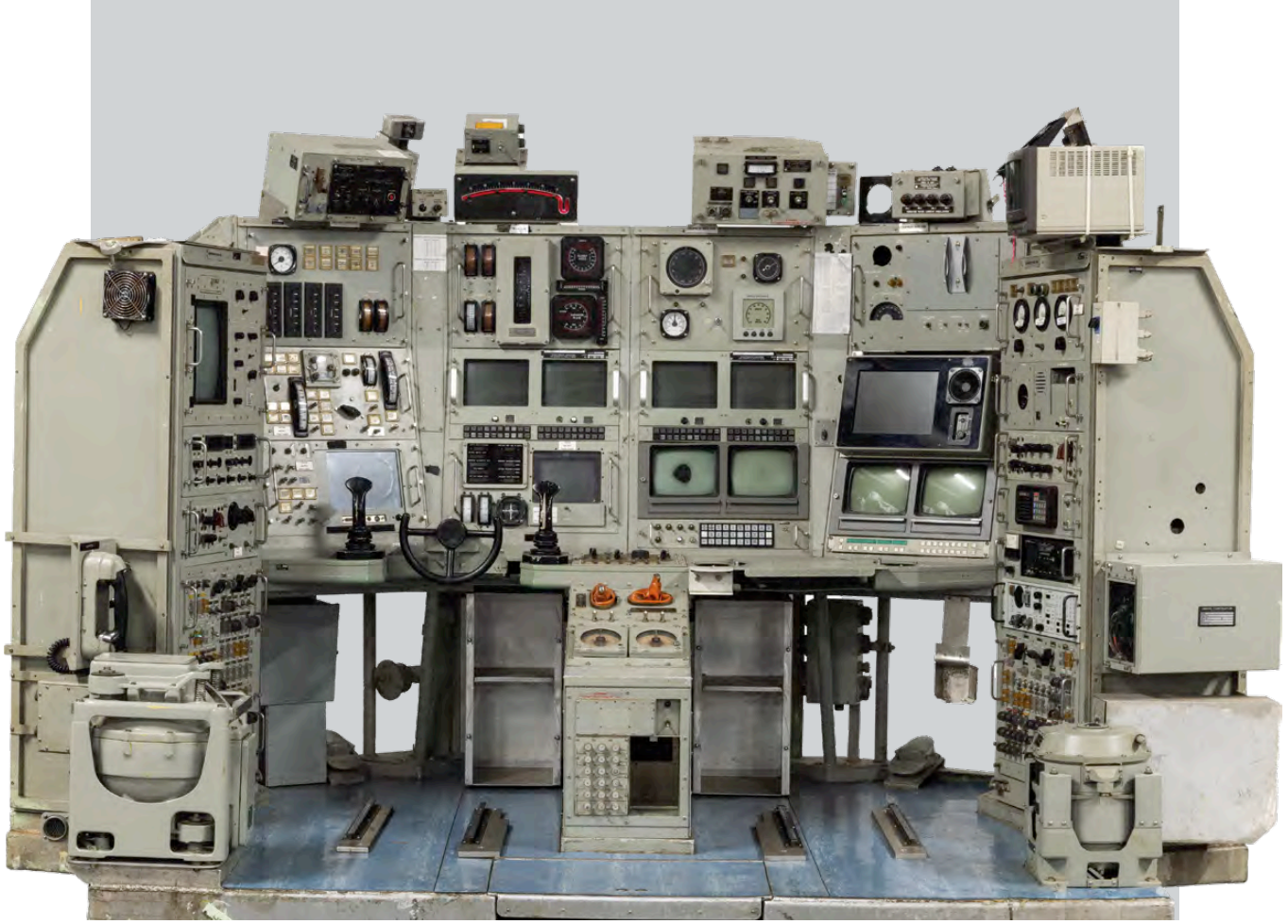
Football Helmet

U.S. Naval Undersea Museum

Navy divers aboard the submarine rescue ship USS *Petrel* (ASR 14) originally wore this 1950s football helmet as protective head gear inside the ship's submarine rescue chamber. In 1966, the helmet became a memento marking *Petrel*'s involvement in the international search for a U.S. hydrogen bomb that had been lost in the Mediterranean Sea after two U.S. Air Force aircraft collided in midair near Palomares, Spain.

Petrel provided deep-sea support during the 80-day mission to find and recover the missing weapon. *Petrel* divers signed the "diving bell hat" to commemorate their roles in what became known as the Palomares Incident, one of history's largest salvage operations.

After the submersible *Alvin* discovered the bomb in mid-March, *Petrel* stood guard over its location during recovery efforts. The intact weapon was safely lifted onto *Petrel*'s deck on 7 April 1966.



NR-1 Control Room Equipment

U.S. Naval Undersea Museum

NR-1 was the U.S. Navy's first and only nuclear-powered research submersible. In service from 1969 to 2008, the deep-diving vehicle carried out classified and unclassified missions such as searches, recoveries, and research operations.

NR-1's nuclear reactor allowed the 11-person crew to remain submerged for up to 30 days—an extraordinary endurance compared to battery-powered submersibles with only hours of operational time. Designed to work on or near the seabed, *NR-1* could dive to a depth of 3,000 feet and roll on the ocean floor using extendable wheels.

Among *NR-1*'s many unclassified missions, the submersible found and recovered a lost missile from the seafloor in 1976, identified and raised key components of the space shuttle *Challenger* in 1986, and investigated the remains of the Civil War ironclad USS *Monitor* in 2002.

***Recovered Apollo 11 Module, USS* Hornet**
by Cliff Young

Oil on Board, 1969
U.S. Navy Art Collection

The Navy made major contributions to the space program. Some astronauts were naval officers, but the Navy also supplied ships and helicopter squadrons used in recovery of astronauts and equipment, and underwater demolition team frogmen who were the first to reach capsules after splashdown. After the astronauts of Apollo 11 were safely on board USS *Hornet* (CVS 12), the ship traveled to pick up the five-ton command module, at which point the boat and aircraft crane was used to bring the module up to the starboard aircraft elevator. The flotation collar was removed, and the module was placed on a dolly near the mobile quarantine facility for removal of the lunar rocks and transfer to Johnson Space Center.

American Flag

Central Artifact Collection
Curator Branch

This miniature flag traveled with the crew on Apollo 12, the second manned mission to land on the moon. On 14 November 1969, Charles Conrad Jr., Alan L. Bean, and Richard F. Gordon Jr. launched from Cape Canaveral, Florida, on a Saturn V rocket. They traveled together on the command service module *Yankee Clipper* and lunar module *Intrepid* to the *Oceanus Procellarum,* Latin for "ocean of storms," area on the moon's surface. Conrad and Bean, using *Intrepid,* landed on the surface of the moon on 19 November, being the third and fourth humans to step foot on the lunar surface. The crew returned to Earth on 24 November aboard *Yankee Clipper* and were recovered by USS *Hornet* (CVS 12). All three astronauts served in the Navy and retired as captains.

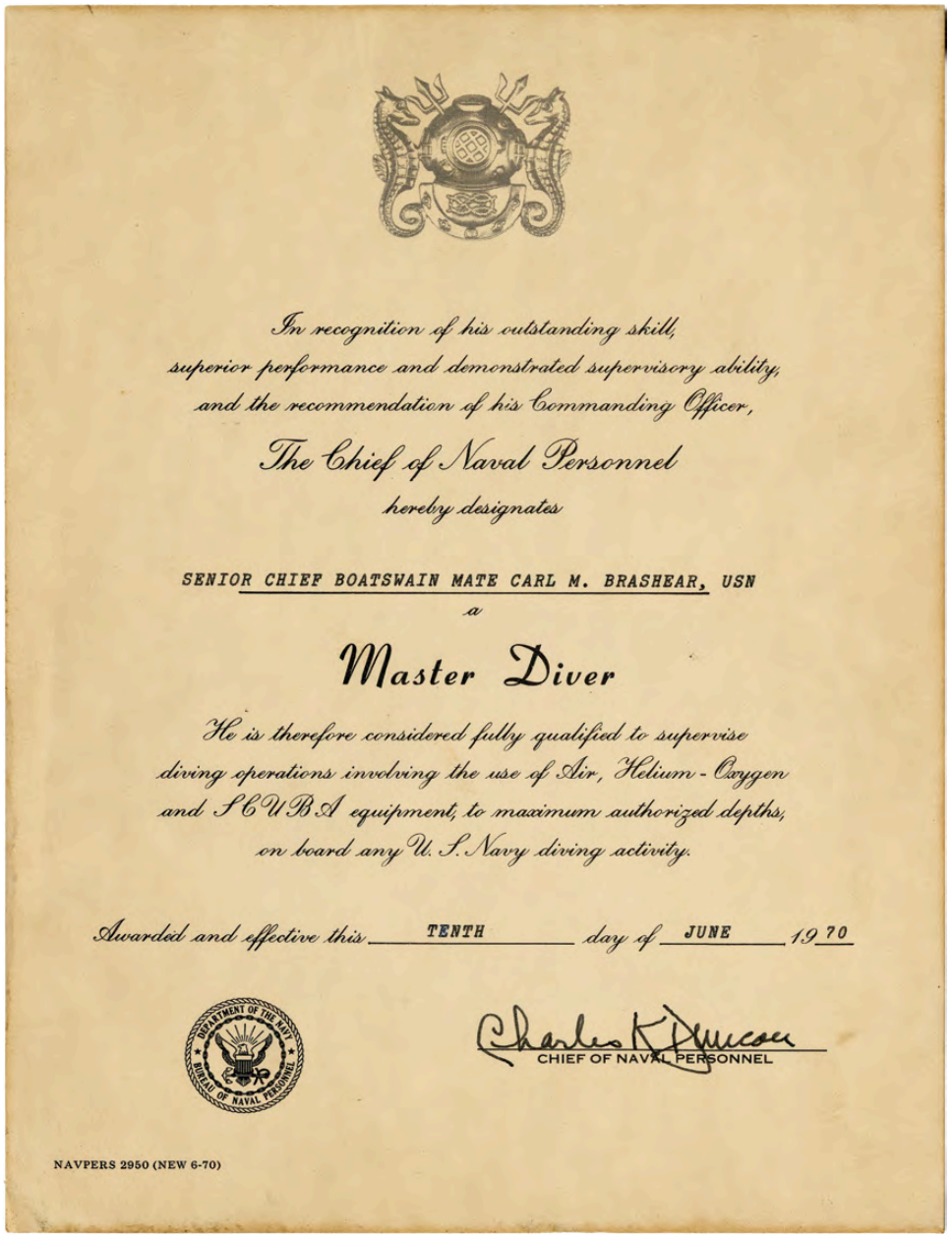
These three individuals were the prime crew of Apollo 12. *Left to right* are Charles Conrad Jr., Richard Gordon Jr., and Alan Bean. (NASA)

DSRV *Mystic*

U.S. Naval Undersea Museum

The Navy developed its first rescue submersibles after the 1963 sinking of submarine USS *Thresher* (SSN 593) highlighted that submarines were operating at depths unreachable by existing rescue equipment. The deep submergence rescue vehicle (DSRV) *Mystic,* launched in 1970, provided rapid-response submarine rescue capability to the Navy for almost 40 years. *Mystic*'s sister DSRV, *Avalon,* operated from 1971 to 2000.

In the event of a submarine accident, *Mystic* or *Avalon* could deploy to rescue survivors anywhere in the world. Though submersibles usually sacrifice maneuverability to withstand greater depths, the DSRVs could maintain an underwater position with leeway of less than an inch. Engineers developed a special smart-vehicle system—twice as complex as the one that guided Apollo 11's 1969 moon landing—to achieve this remarkable precision. Although the Navy conducted numerous practice exercises with the DSRVs, they were never needed for a real rescue operation.



In recognition of his outstanding skill,
superior performance and demonstrated supervisory ability,
and the recommendation of his Commanding Officer,

The Chief of Naval Personnel

hereby designates

SENIOR CHIEF BOATSWAIN MATE CARL M. BRASHEAR, USN

a

Master Diver

He is therefore considered fully qualified to supervise
diving operations involving the use of Air, Helium - Oxygen
and SCUBA equipment, to maximum authorized depths,
on board any U. S. Navy diving activity.

Awarded and effective this TENTH *day of* JUNE *19*70

DEPARTMENT OF THE NAVY BUREAU OF NAVAL PERSONNEL

Charles K. Duncan
CHIEF OF NAVAL PERSONNEL

NAVPERS 2950 (NEW 6-70)

Master Diver Certificate

U.S. Naval Undersea Museum

Master Chief Boatswain's Mate Carl Brashear overcame poverty, racism, and a life-threatening injury to fulfill his dream of becoming an active-duty master diver in the U.S. Navy. As a young sailor, Brashear witnessed a Navy diver at work and was captivated. Following three years of petitioning, he attended diving school in 1954, where he endured racist harassment and threats.

In 1966, Brashear suffered a grave injury to his left leg while saving another sailor's life. He elected to have his lower leg amputated to resume diving. After strenuous rehabilitation and a year-long evaluation, Brashear was restored to full duty in 1968, the first amputee diver in Navy history. In 1970 he qualified as a master diver and retired with the rank of master chief in 1979.

Senior Chief Carl Brashear on USS *Hunley* (AS 31) at sea, c. April 1971. Note his name tag includes his status as a master diver.

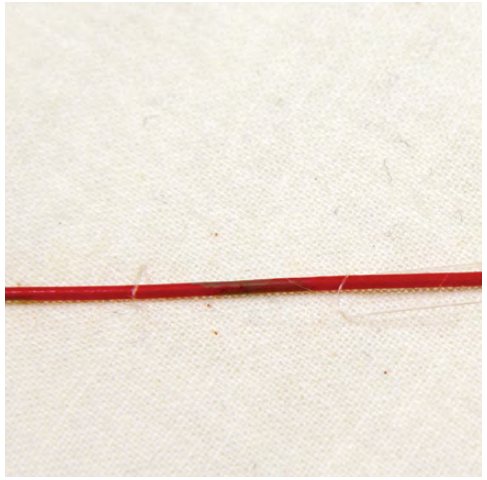
Naval Experimental Manned Observatory (NEMO)

U.S. Navy Seabee Museum

As one of four deep submergence vehicles within the Navy's Man-in-the-Sea Program, the Naval Experimental Manned Observatory (NEMO) was the first seaworthy, deep diving, one atmosphere (sea level) environment diving system that used an acrylic pressure hull. NEMO allowed Navy engineers to observe undersea construction sites and demonstrate that a spherical pressure hull could be constructed out of acrylic.

Researchers at the Navy Civil Engineering Laboratory analyzed, tested, and designed the hull. NEMO made 671 dives in the Bahamas and off the Channel Islands, California, without any visible sign of material fatigue. Normally operating from 50 to 600 feet underwater, its deepest dive was recorded at 614 feet. After decommissioning in 1980, it was placed on display at Naval Ocean Systems Center San Diego and Disneyland before being placed on exhibit at the U.S. Navy Seabee Museum in 2011.

Capt. Grace Hopper, the head of the Navy Programming Language Section, shown speaking with a staff member about her work in August 1976.



Wire Teaching Aid

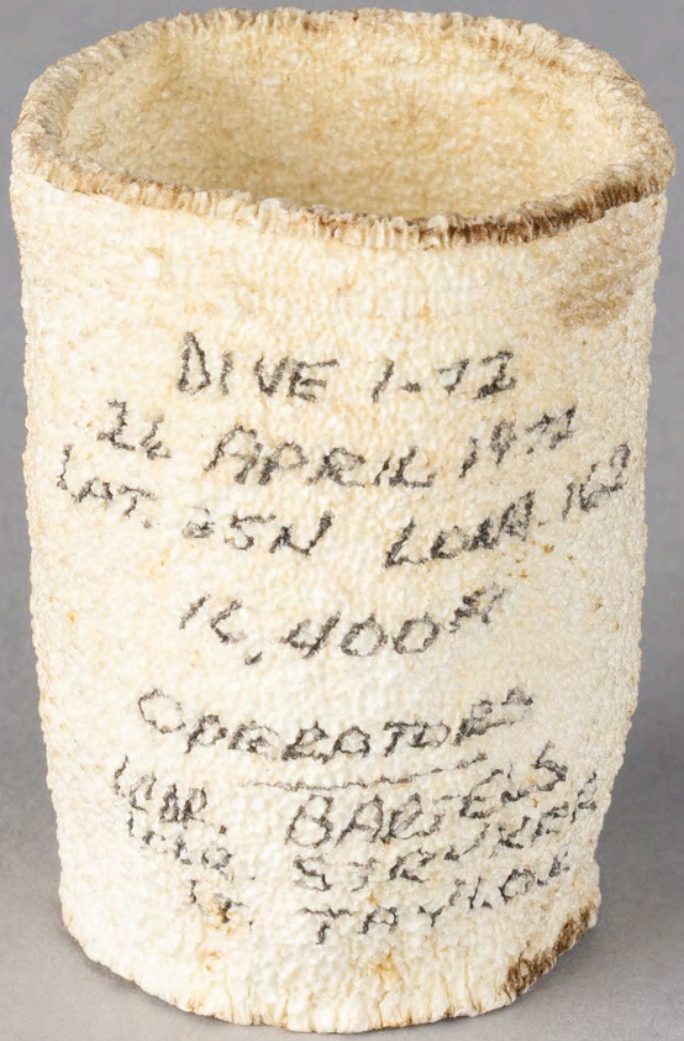
Central Artifact Collection
Curator Branch

This wire was used by Rear Admiral Grace Hopper during her lectures in the 1970s and 1980s. The wire represents the maximum distance electricity may travel in a nanosecond, one billionth of a second. The purple bands represent the distance electricity travels in a picosecond, one trillionth of a second. Hopper was a pioneer in early computing, earning her master's degree (1930) and her doctorate (1934) at Yale University in mathematics. After the attack at Pearl Harbor, she joined the U.S. Navy's Women's Reserve, or Women Accepted for Volunteer Emergency Service (WAVES), and continued to serve in the Navy as both a reservist and on active duty until the age of 79.

Mailbox

National Museum of the American Sailor

Regardless of the era in which a sailor served, the words “mail call” have always brought joy. Mail remains a critical morale booster for military personnel, with cards, letters, and packages playing an important role in helping sailors feel connected, especially when far away from home. With scheduled time given to write letters home to their first mail call, the importance of mail for sailors begins in the earliest days of their naval careers when they are just starting out as recruits. Used by recruits in the 1970s and 1980s at the boot camp in Great Lakes, this simple painted wood mailbox, dated circa 1981, provided a vital link between Navy recruits and their friends and family back home.



Shrunken Cup

Trieste II (DSV 1)

U.S. Naval Undersea Museum

In July 1971, a film capsule from a KH-9 Hexagon photoreconnaissance satellite fell 16,400 feet into the Pacific Ocean during reentry. The Central Intelligence Agency (CIA) sought the Navy's assistance to retrieve the capsule's high-value images.

During multiple dives beginning in early November, the deep submergence vehicle *Trieste II* (DSV 1) attempted to raise the capsule. Its pilots succeeded on 26 April 1972, though the film strips disintegrated during the ascent. *Trieste II* was awarded a Meritorious Unit Citation for the deepest recovery ever achieved by that date.

Lieutenant Commander Phil Stryker Jr., one of the *Trieste II* pilots, affixed this annotated Styrofoam cup to the submersible's exterior to commemorate the 26 April dive. Stryker died in 1997, 14 years before the CIA declassified the top-secret mission and the cup's full significance could be publicly understood.

USS Sanctuary
by George Gibson Jr.,

Oil on Canvas, 1973
U.S. Navy Art Collection

This painting depicts the introduction of women to sea duty aboard ships in the U.S. Navy. Prior to this event, only nurses served on ships at sea. Lieutenant (j.g.) Ann E. Kerr and Personnelman Third Class Peggy Sue Griffith came aboard USS *Sanctuary* (AH 17) on 8 September 1972. They were joined by 60 enlisted women. When the ship recommissioned on 18 November 1972, it became the first ship with a mixed male and female company.

Decorated Naval Aviator Helmet

National Naval Aviation Museum

When Jane Skiles joined the Navy, it would have appeared to many as a foregone conclusion. Both of her parents served in the U.S. Navy. Her father retired as a reserve naval aviator and mother served as a reserve supply corps officer during World War II. Skiles graduated from Iowa State University in August 1972 with a degree in political science and in October reported to Newport, Rhode Island, for Women Officers School (WOS). Shortly after beginning WOS, the Navy announced that aviator training would be open to women and Jane immediately applied. Following in her father's footsteps, Jane completed the training as part of the first group of women aviators, with her father pinning her gold wings on her at graduation. In 1974, Skiles became a C-130 pilot in the U.S. Navy.

This flight helmet, decorated with flowers that reflected a popular visual style in the 1970s, was used by Skiles and reflected her married surname O'Dea. Jane O'Dea logged more than 3,000 hours in the C-130, C-1A, T-34, and EC-130Q airframes. She retired from the Navy as a captain in 1997 and continued to work for the Navy as a contractor, eventually retiring after 52 years of combined military and civilian service.

EOCN Jones learns how to operate a large crane from a chief petty officer.

Utility Uniform and Eight-Point Cover

U.S. Navy Seabee Museum

Equipment Operator Constructionman (EOCN) Camella J. Jones qualified as a heavy equipment operator in November 1972 at the age of 20. Assigned to the U.S. Navy Seabees, Jones cross-rated from the WAVES and received orders to Naval Air Station, Kingsville,Texas. Women were issued the same “Seabee greens” utility uniform and eight-point cover worn by men with the Seabee insignia and logos. Jones went on to become a U.S. Navy chief petty officer.

Storyboard Plaque

U.S. Navy Seabee Museum

Hand-carved storyboard replicating one of the panels from the Seabee Memorial in Washington, DC. It was carved in Tacloban, Leyte Island, Philippines, by a local worker at the water plant at Subic Bay in 1973. Made of Narra wood, the carving depicts Seabee constructionmen pouring concrete, a sky crane, heavy equipment, and various Seabees working.

Welder's Mask

U.S. Naval Undersea Museum

Donna Tobias wearing a Mark V dive rig.

Donna Tobias enlisted in the Navy in March 1974 wanting to become a diver, but her recruiter told her the diving community was closed to women. Undeterred, Tobias selected the rating of hull maintenance technician, knowing it would teach her a useful skill to use underwater. She wore this welder's mask while working as a shipfitter and undergoing the lengthy process of acquiring a gender waiver for diving school.

Recent events offered some precedent. In 1972, the Chief of Naval Operations, Admiral Elmo Zumwalt Jr., had issued a "Z-gram" directive that expanded roles for women. The following year, Personnelman Seaman Kati Garner qualified as a Navy scuba diver.

Tobias learned her request had been approved two days before the diving course began. Warned by her instructors she would need to be "nearly flawless," Tobias outperformed 85 percent of her classmates and qualified as a diver on 14 March 1975.

Two crewmen starting a practice dive off Pearl Harbor, Hawaii, on 23 October 1951.

MK V Diving Helmet

U.S. Naval Undersea Museum

Navy divers wore the MK V diving rig for salvage and deep-sea operations from 1916 through the early 1980s. Safeguarded inside the iconic copper helmet, thousands of divers built the Navy diving community's reputation as the world's foremost experts in underwater salvage and repair.

The rugged MK V diving system revolutionized diving operations by allowing divers to work at much greater depths than had previously been possible. A mixed gas version of the MK V, developed in the 1930s, mitigated the harmful effects of nitrogen while further extending diving depths.

In 1980, the Navy introduced the MK 12 surface-supported diving system as a replacement for the MK V, which was phased out of use over the next few years. Though the Navy has used newer, lighter, fiberglass helmets for more than 40 years, the MK V helmet remains the symbol of Navy diving.

Crown for the Geodesic Dome at South Pole Station

U.S. Navy Seabee Museum

One of the most interesting facilities constructed by Seabees was a geodesic dome that covered the National Science Foundation's Amundsen-Scott South Pole Station in Antarctica. Completed on 9 January 1975, the Seabees succeeded in building the 52-foot-high by 164-feet-wide structure with no cranes in one of the harshest environments on the globe.

Naval Facilities Engineering Command determined that a dome was required for continued research by the National Science Foundation at the South Pole. The dome needed to be large enough to enclose and protect three buildings for quarters and operations, two of them two stories high. The dome was to offer shelter from the wind and snow, but not the cold, and keep the inside temperature below 0 degrees. After serving over three times its planned lifespan, the dome was dismantled and removed from Amundsen-Scott South Pole Station in 2009. The dome's crown was then transferred to the U.S. Navy Seabee Museum.

Pistols and Knife

Central Artifact Collection
Curator Branch

The display was a gift from H. Ross Perot, a native Texan and 1953 graduate of the U.S. Naval Academy, to USS *Texas* (CGN 39) for its 10 September 1977 commissioning. The shadow box contains a Bowie knife and two .45-caliber Colt revolvers commemorating the Battle of the Alamo, all emblematic of the state of Texas. An engraved plaque reads "In case of missile failure, break glass" a joking reference to the ship's armament of guided missiles. *Texas* was the Navy's second *Virginia*–class nuclear powered guided-missile cruiser and supported Operation Eagle Claw in Iran, action against Libyan aggression in the Gulf of Sidra, and Operation Desert Storm. The ship was stricken on 16 July 1993 when all *Virginia*–class ships were decommissioned early after only 15 years of service.

USS *Texas* (CGN 39) underway during sea trials on 19 June 1977. Sea trials, also referred to as a "shakedown cruise," are conducted to test the vessel's sea worthiness and performance.

Trident I Missile Payload Section

U.S. Naval Undersea Museum

Early U.S. Navy sea-based strategic deterrence required submarines to surface to launch their nuclear missiles. These missiles had limited range, and by surfacing, negated one of the submarine's greatest assets, stealth. This program rapidly evolved into underwater-launched ballistic missiles with thousands of miles of range. The Trident I (C4) missile, in use from 1979 to 2005, was a three-stage, solid-fuel, inertially guided weapon that could hold up to eight nuclear warheads called multiple independently targeted re-entry vehicles (MIRVs).

Engineers increased Trident I's range to 4,000 nautical miles, a 60 percent jump compared to its predecessor, Poseidon C3, while maintaining missile size to fit existing missile tubes. A new class of submarines designed and built to support Trident I missiles, the *Ohio* class, entered service in 1981. This payload section from a Trident I training missile, configured with four simulated MIRVs, was used for decades at Strategic Weapons Facility Pacific to train sailors and technicians.

Coveralls and Belt

U.S. Naval Undersea Museum

Captain Marie Knafelc joined the U.S. Navy in 1980 after earning her medical degree. Stationed at the Navy Experimental Diving Unit, she qualified in scuba, mixed gas, and saturation diving, and as an undersea medical officer.

In 1982, Dr. Knafelc was designated one of the first female submarine medical officers, training and qualifying aboard the submarine USS *Casimir Pulaski* (SSBN 633) almost 30 years before the U.S. Navy's submarine force would open service to women. The qualifying squadron initially declined to award her the submarine medical officer insignia even though she had completed all the requirements. Knafelc persisted with additional documentation and recommendations until her achievement was recognized.

Knafelc's coveralls reflect her hard-earned qualifications: doctor, submarine medical officer, and undersea medical officer. As doctors no longer served on submarines by the 1980s, her *Casimir Pulaski* belt buckle displays the insignia of submarine warfare officers.

Exocet Missile Warhead Without Fuze

U.S. Naval Academy Museum

During the Iraq-Iran War of 1980–88, the U.S. Navy escorted neutral Kuwaiti oil tankers through the Arabian Gulf. In 1987, USS *Stark* (FFG 31) was part of the Middle East Task Force assigned to patrol off the Saudi Arabian coast near the Iran-Iraq War exclusion boundary. On 17 May, an Iraqi fighter pilot fired two French-made Exocet missiles at the frigate. The crew of *Stark* did not detect them with radar and fired no weapons in its defense. The first Exocet, fired from a distance of 22 miles, penetrated the port-side hull and failed to detonate, but left flaming fuel in its path. Thirty seconds later, the second entered at almost the same point and exploded in crew quarters, leaving a gaping 10-by-13-foot gash in the hull. Thirty-seven sailors were killed and 21 others wounded.

On fire and listing, the crew brought the ship under control during the night. *Stark* was able to transit to Bahrain for temporary repairs and then returned to Naval Station Mayport under its own power. A court of inquiry relieved Captain Glen R. Brindel of command, and both he and the ship's tactical action officer, Lieutenant Basil E. Moncrief, were given non-judicial punishment and received letters of reprimand, effectively ending their careers. The ship's executive officer, Lieutenant Commander Raymond Gajan Jr., was detached for cause. This is the warhead of the first, unexploded, Exocet missile.

USS Stark (FFG 31) on 17 May 1987 after being struck by an Exocet missile. (NARA)

USS *Samuel B. Roberts* on the Dutch heavy lift ship *Mighty Servant II* in August 1988 following the mine strike in the Arabian Gulf in April of that year.

Section of Keel

USS *Samuel B. Roberts* (FFG 58)

Central Artifact Collection
Curator Branch

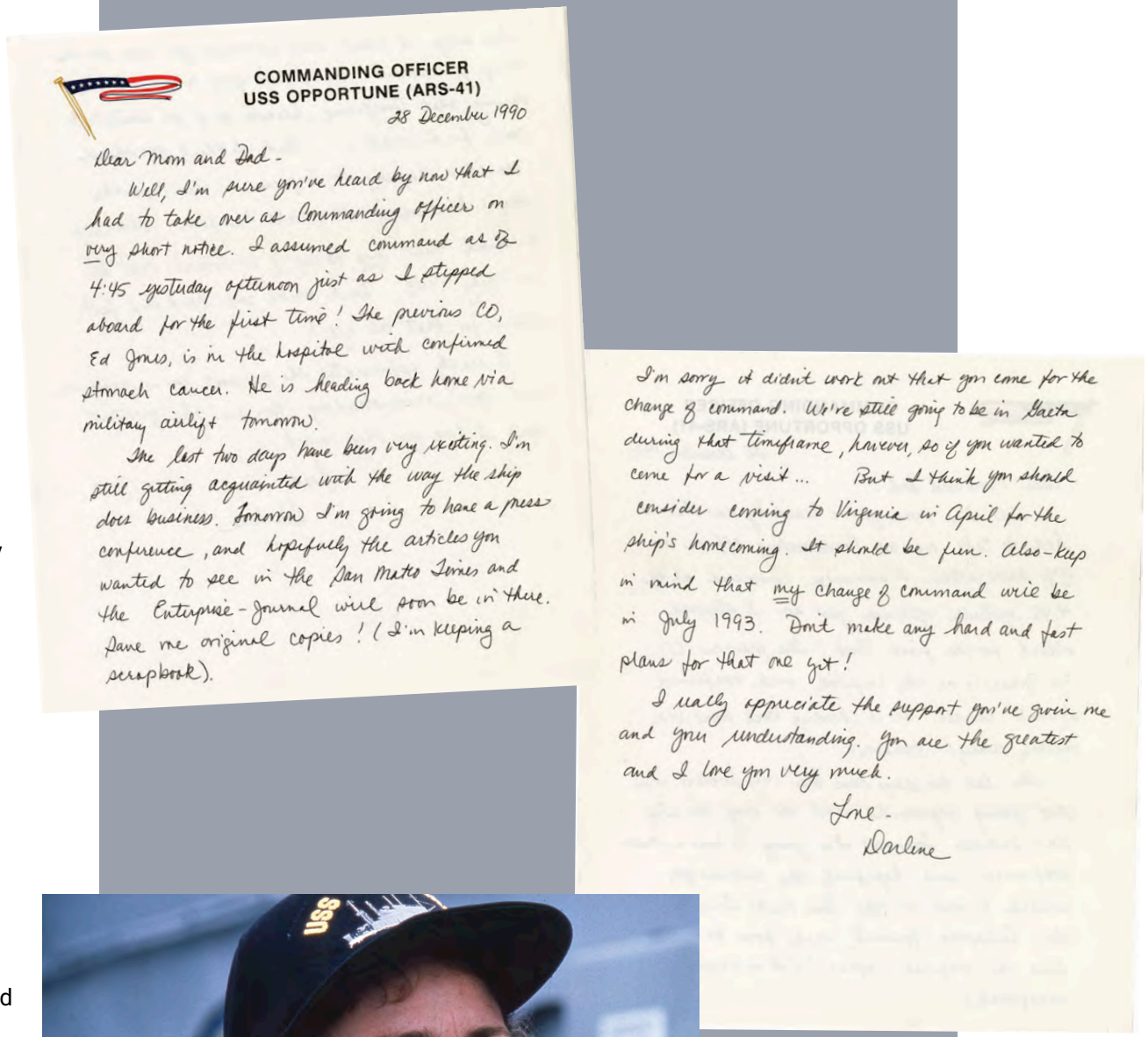
In April 1988, USS *Samuel B. Roberts* was participating in Operation Earnest Will, protecting Kuwaiti-flagged tankers during the Iran-Iraq War. On 14 April while underway in the Arabian Gulf, *Samuel B. Roberts* struck a mine. The explosion caused massive damage to the ship, breaking the ship's keel, and blowing out a 21-foot hole in the ship's port side. The crew immediately engaged in damage control efforts and, after several hours, were able to stabilize the ship. The Navy was able to connect the mines to the Iranian *Ajr*. A year earlier, the *Ajr* had been discovered by USS *Jarrett* (FFG 33) deploying mines in this area. The Navy retaliated by launching Operation Praying Mantis, directed against Iranian targets. It was the largest U.S. naval engagement at that time since World War II.

Letter from Lieutenant Commander Darlene Iskra

U.S. Naval Undersea Museum

Lieutenant Commander Darlene Iskra wrote this letter to her parents on 28 December 1990, the day after she assumed command of USS *Opportune* (ARS 41). Iskra's parents had planned to attend her change-of-command ceremony, scheduled for 24 January 1991, but Iskra stepped into the position sooner than expected after the previous commanding officer experienced a medical emergency. In her letter, Iskra describes the adjustment of taking over the role a month early and thanks her parents for their longtime support.

Seventeen days after Iskra took command, *Opportune* deployed to the Mediterranean in support of Operation Desert Storm. Iskra would command *Opportune* through July 1993. She retired from the Navy in 2000 with 21 years of service.



COMMANDING OFFICER
USS OPPORTUNE (ARS-41)

28 December 1990

Dear Mom and Dad -

Well, I'm sure you've heard by now that I had to take over as Commanding Officer on very short notice. I assumed command at 0445 yesterday afternoon just as I stepped aboard for the first time! The previous CO, Ed Jones, is in the hospital with confirmed stomach cancer. He is heading back home via military airlift tomorrow.

The last two days have been very exciting. I'm still getting acquainted with the way the ship does business. Tomorrow I'm going to have a press conference, and hopefully the articles you wanted to see in the San Mateo Times and the Enterprise-Journal will soon be in there. Save me original copies! (I'm keeping a scrapbook).

I'm sorry it didn't work out that you come for the change of command. We're still going to be in Gaeta during that timeframe, however, so if you wanted to come for a visit... But I think you should consider coming to Virginia in April for the ship's homecoming. It should be fun. Also - keep in mind that my change of command will be in July 1993. Don't make any hard and fast plans for that one yet!

I really appreciate the support you've given me and your understanding. You are the greatest and I love you very much.

Love -
Darlene

1948
1949
1954
1955
1956
1957
1958
1959

Korean War, *1950–53*

Near the end of World War II, Allied leaders agreed to set up a United Nations trusteeship of the former Japanese colony of Korea until the country was able to govern itself. Soviet forces took over north of the 38th parallel and the United States to the south. However, by 1948 two countries emerged, the Republic of Korea in the south led by the anti-Communist nationalist Syngman Rhee, and the communist Democratic People's Republic of Korea under Kim Il Sung in the north. In an attempt to unify the country under communist rule, the North Korean People's Army invaded South Korea on 25 June 1950. The United Nations Security Council voted to resist this aggression and, shortly after, General of the Army Douglas MacArthur was appointed as the commander of the United Nations Command and directed to defend South Korea.

For the U.S. Navy, naval aviation and actions in the littorals, including major amphibious operations, rather than large fleet actions, were key components of U.S. strategy. Operation Chromite, the landing of troops at Inchon, demonstrated that coordinated land, air, and sea attacks can be incredibly successful. In addition to supporting amphibious operations, the U.S. Seventh Fleet provided aviation assets to support ground missions and the disruption of enemy supply lines. By the end of the war, U.S. Navy and Marine Corps aircraft had dropped more ordnance by tonnage in Korea than the entire World War II campaign in the Pacific. The Korean War also witnessed the continuing transition of propeller to jet aircraft, a game-changing technology when applied to naval aviation combat operations.

This conflict necessitated a mindset change from the all-out war of World War II to a limited war concept, one whose purpose was to resist aggression and, in this case, prevent the spread of communism. Total obliteration or capitulation of the enemy was not the goal. Though combat operations ceased in 1953, no peace treaty was signed. Military, political, and cultural divisions still exist in the Korean peninsula.

"Black Sheep" Flight Jacket

National Naval Aviation Museum

Flying F4U Corsairs like those in which he had logged missions during World War II, Major Robert P. Keller, USMC, wore this leather flight jacket while in command of Marine Fighter Squadron (VMF) 214, nicknamed the "Black Sheep." VMF 214 flew combat missions off USS *Badoeng Strait* (CVE 116) and USS *Boxer* (CV 21) during Korea. In the event he was shot down on a mission over Korea, Keller had sewn in the lining of his flight jacket a veritable IOU for survival in the form of a so-called blood chit, which indicated in Korean and other languages that the holder was a downed American pilot. It provided instructions for his return to friendly forces. Keller wore his jacket throughout his entire career, which ended with his retirement as a lieutenant general.

Maj. Kenneth Reusser, USMC, points out to Maj. Robert Keller, USMC, the scene of the last strike by his unit, 8 August 1950. (NARA)

Blood Chit

Central Artifact Collection
Curator Branch

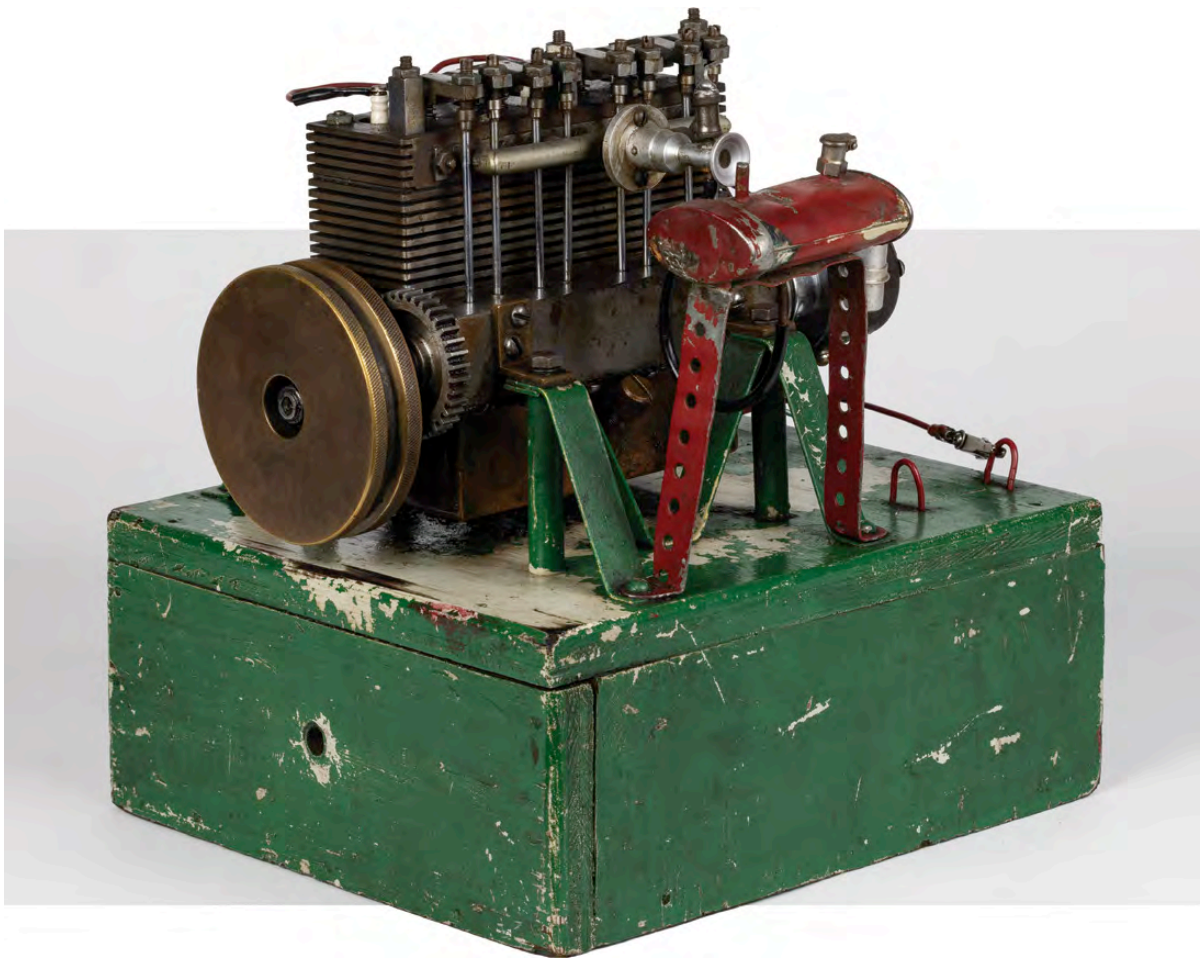
This blood chit was used by Harry Spohn during the Korean War. As an aerographer's mate, Spohn would collect and analyze meteorological and oceanographic observations. During wartime, flight crews would carry a blood chit, often sewn into their flight clothing, as a way to obtain assistance if their aircraft was shot down. This chit has the same message in English, Korean, Japanese, and Chinese, promising a reward if the bearer is provided with help. After he left the service, Spohn joined the National Weather Service and later overwintered in Antarctica as part of the 1962–63 Operation Deep Freeze. Mount Spohn, a peak in the Otway Massif in Antarctica, is named in his honor.

Handmade Engine

Puget Sound Navy Museum

This small engine was the work of a sailor stationed aboard a transport ship during the Korean War. He machined some components from scratch, and reused pieces from toothpaste tubes, spark plugs from a model airplane, and other found objects. It reflects the engine-building knowledge he learned during his U.S. Navy training, as well as the ingenuity of a sailor out at sea with limited resources. In an environment where supplies were often scarce, sailors had to make do with what they had, using creativity and resourcefulness to solve problems.

As a representation of the sailor's craftsmanship, this handmade engine is an example of the naval equivalent of "trench art" created by soldiers. Crafted from salvaged materials, it speaks to the adaptability and mechanical skills required to thrive while stationed on a wartime transport ship.

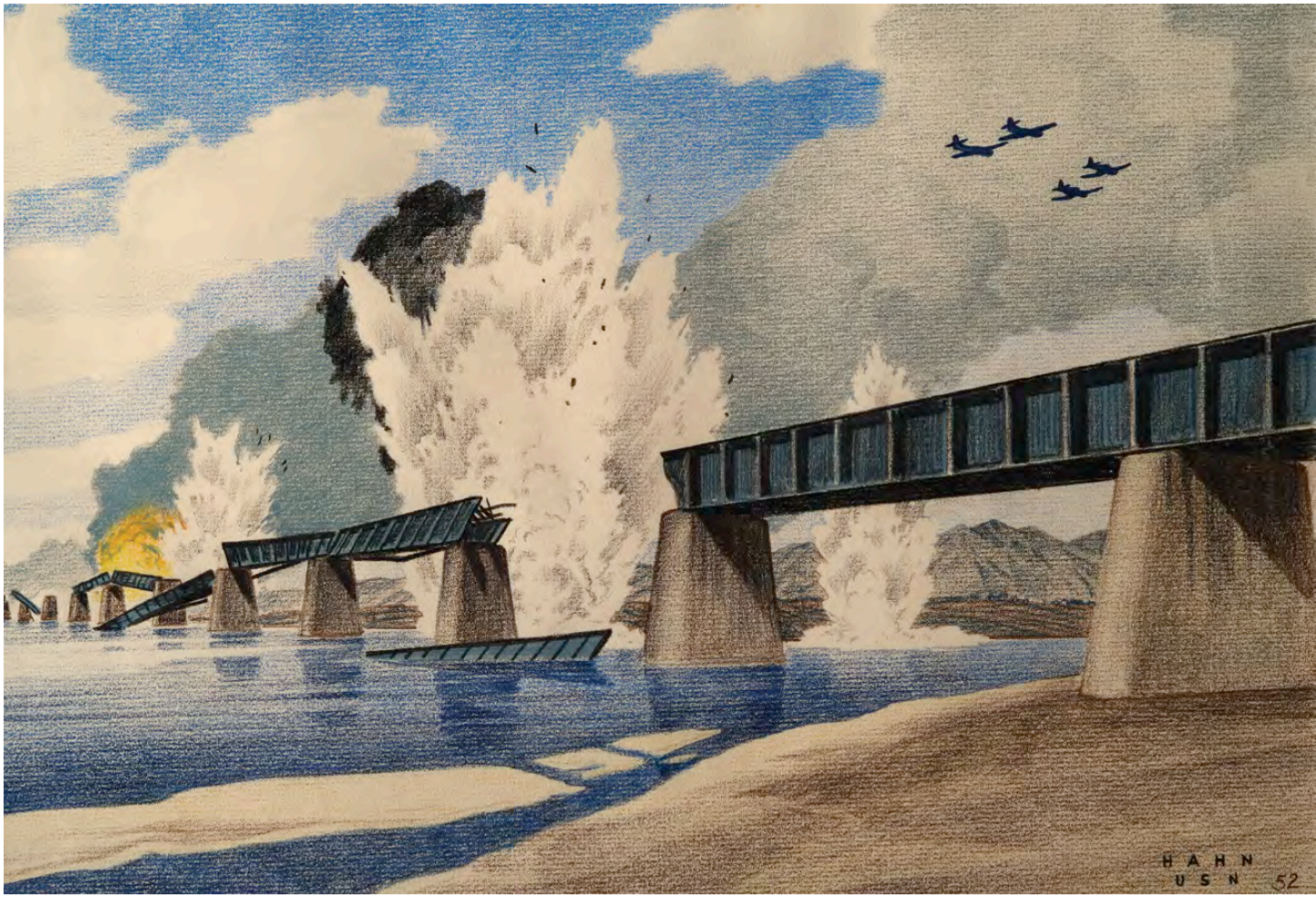


48-Star Ensign

Central Artifact Collection
Curator Branch

This is the last national ensign flown on USS *Pirate* (AM 275). Commissioned in 1944, this minesweeper served briefly in World War II before it was decommissioned in 1946. Recommissioned in August 1950 to support operations in the Korean War, *Pirate* was ordered to Pusan, Korea. On 12 October 1950 while conducting minesweeping operations off the island of Sin-Do, *Pirate* struck a mine and sank within five minutes. Twelve sailors were unaccounted for and one was declared killed in action. *Pirate* was one of only five Navy ships lost during the Korean War. The ship's commanding officer, Lieutenant Cornelius McMullen, had possession of the ensign after the attack and later donated it to the Navy.

Prismacolor is the colloquial name of a commercial brand of colored pencils whose soft pigment core and more vibrant and saturated colors made them a popular choice among artists during the mid-twentieth century, when they were first introduced to the market. The soft pigment core marries the harder pigment core of traditional colored pencil with the blending capability of crayon for a product that permits the artist to create detailed, color-accurate works of art. In addition, prismacolors were appreciated by combat artists for being easy to transport while on assignment and for their reliability in application. As such, prismacolors have been and continue to be used by combat artists in the twenty-first century. *Scratch One!* and *Skyraiders* by Herbert Hahn, included here, are both representations of this medium.



Scratch One!
by Herbet Hahn

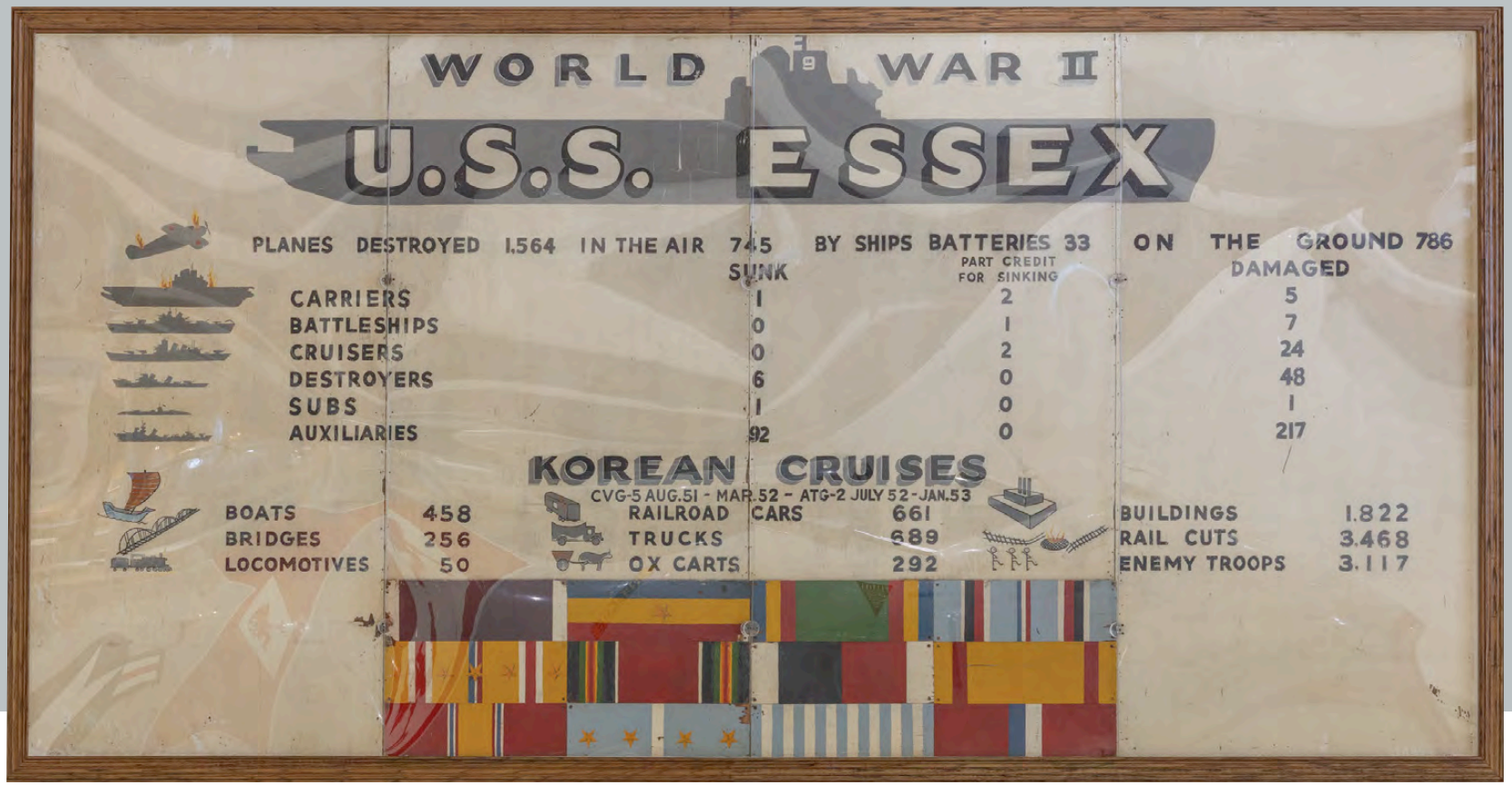
c. 1951
U.S. Navy Art Collection

During the Korean War Task Force 77, part of the Navy's Seventh Fleet, conducted a variety of missions to include supporting the amphibious landings at Inchon and air support for troops engaged in ground combat. Naval aircraft from Task Force 77 were also directed to disrupt enemy logistics by destroying roads, storage areas, and bridges, as depicted by U.S. Navy combat artist Herbert Hahn.

Skyraiders
by Herbet Hahn

c. 1951
U.S. Navy Art Collection

The Douglas AD-1 Skyraider was used extensively during the Korean War by the U.S. Navy. The airframe's range and maximum ordnance load made it ideal for dive-bombing missions. These Skyraiders, Navy variant AD-4Q, were operated by Reserve Attack Squadron (VA) 702 and assigned to USS *Boxer* (CV 21). Combat artist Herbert Hahn depicts their bombing raid on Hamhung in April 1951.



Scoreboard

National Naval Aviation Museum

This scoreboard was displayed on the hangar deck of the aircraft carrier *Essex* (CV/CVA 9) during World War II and the Korean War. It reflects the differences in the nature of combat in these two conflicts: the wide-ranging sea battles of the Pacific and direct action against enemy forces replaced by a war of interdiction, in which success was measured by destroying locomotives and even ox carts.

1953
1954
1976
1977
1978
1979
1980
1981

Vietnam War, *1955–75*

The United States Navy, in conjunction with the Marine Corps and Coast Guard, endeavored to preserve the independence of the free governments of South Vietnam, Laos, and Cambodia during the first half of the Cold War. The collection of artifacts depicted in this chapter reflects the diverse nature of the Navy's activities in Southeast Asia, a region far from America's near waters, in the interest of countering communism. They illustrate the Navy's effort, from the 1950s through the first half of the 1970s, to respond to the demands of an increasingly complex and divisive war.

These artifacts are representative of the Navy's multi-faceted role in the Vietnam conflict. The Navy's involvement included the fight for Vietnam's rivers, canals, and coastline; naval special warfare; the prisoner-of-war (POW) experience; the Navy's bombing campaigns and support of ground troops from the air; Navy medicine, Navy leaders, naval advisors and the Republic of Vietnam Navy; naval logistics to include sealift and support activities ashore; Seabees and their construction projects; naval intelligence; and ultimately, the seaborne evacuation of refugees fleeing in the hope of securing their freedom from the relentless communist advance. The objects depicted also reflect the all-important connection between those serving "in country" and those who supported them back home.

While the effort ultimately proved unsuccessful in forestalling communist victory, the exertions of over 2.6 million service members, more than 2,500 of whom lost their lives—at sea, in the air, or on land—were not without honor and distinction. Their collective service and sacrifice, amidst the era's uncertain strategic direction and domestic political and social upheaval, merit our acknowledgement. More importantly, they deserve our commensurate appreciation.

F4 Phantoms Flying Over USS Enterprise
by Robert McCall

Oil on Canvas, c. 1964
U.S. Navy Art Collection

During the Vietnam War, F4 Phantoms flew many combat missions from USS *Enterprise* (CVN 65) for both ground attacks and reconnaissance missions. These planes were in use during the 1970s and 1980s until finally removed from service in 1986. Commissioned in 1961, *Enterprise* was the world's first nuclear-powered aircraft carrier. After 52 years of service, the ship decommissioned in 2017.

The artist, Robert McCall, was known for his works related to space missions, with his images being used on postage stamps and the Apollo 17 mission patch.

Carbine

Central Artifact Collection
Curator Branch

This is a Chinese-made copy of a 1944 Russian Mosin-Nagant Model 7.62-mm carbine. This weapon was recovered by crew from USS *Brister* (DE 327) from a North Vietnamese trawler on 10 May 1966 as part of Operation Market Time. Brister and several U.S. Coast Guard cutters encountered a vessel underway, operating in various directions and speeds. The trawler ran aground and opened fire on the U.S. forces, which responded in kind. During the engagement the trawler exploded. This carbine was recovered, showing damage from the engagement and subsequent explosion.

FOR OFFICIAL USE ONLY DO NOT REMOVE FROM SHIP

SATURDAY 29 JULY 1967

PLAN OF THE DAY

USS FORRESTAL (CVA 59)

The Plan of the Day contains both official and unofficial matter. All personnel are charged with the knowledge of its contents. All orders shall be considered as issued by the Commanding Officer.

DUTY SECTION: ONE IN CASE OF FIRE DIAL 211

PRESCRIBED UNIFORM	OFFICERS & CPO'S	ENLISTED
Uniform of the Day	Tropical Khaki Long	Undress Whites
Bridge Watch Standers	Tropical Khaki Long	Undress Whites
Working Uniform	Working Khaki (short or long sleeve shirts optional)	Dungaree Trousers with a clean T-Shirt

	O. O. D.	J. O. O. D.	J. O. O. W.	J. O. O. W. (UI)
08-12	LCDR BLOEDORN	*LTJG WHITMAN	LTJG PATTERSON	
12-16	LTJG HUNT	*ENS SMITH	LTJG HELGEMO	LT TRANSEAU
16-18	LTJG HOOPES	LTJG HOLDSWORTH	ENS KINNEY	ENS GUIDO
18-20	LT CORZELLE	*LTJG LYNCH	ENS JOHNSON	
20-24	LCDR BLOEDORN	LTJG WHITMAN	LTJG PATTERSON	
00-04	LTJG HUNT	ENS SMITH	LTJG HELGEMO	LT TRANSEAU
04-08	LTJG HOOPES	LTJG HOLDSWORTH	ENS KINNEY	ENS GUIDO

* The J.O.O.D. will sample the crew's mess prior to assuming the watch.

ROUTINE

Carry out the daily at-sea routine as prescribed in enclosure (1) to USS FORRESTAL INSTRUCTION 5330.1B, except as modified below:

0300 Reveille for Flight Quarters Personnel.
0400 Flight Quarters.
0600 Reveille.
0700 Sweepers.
0700 Check the setting of material condition YOKE.
0750 Muster on stations. Submit muster reports to the Personnel Office by 0850.
1130 Protestant Daily Devotions in the Memorial Chapel.
1230 Catholic Mass in the Memorial Chapel.
1300 Sweepers.
1630 Check the setting of material condition YOKE.
1845 8 O'Clock Reports.
1900 Man all refueling stations.
2000 Christian Fellowship Group will meet in the Memorial Chapel.
2100 Sweepers.
2130 Catholic Confession and Holy Communion in the Memorial Chapel.
2200 Taps.

ANNOUNCEMENTS

1. ATTENTION ALL HANDS. The Forerunner is not subject to FREE MAILING. Postage has to be paid.

2. ATTENTION CATHOLIC PERSONNEL. Until further notice there will be an opportunity to receive Holy Communion every evening in the Memorial Chapel between 2130 and 2145. Aboard ship there is no Eucharistic fast before Communion. Confessions will also be heard at this time.

3. ALL HANDS NOTE. Are you a part of spreading litter or of keeping a clean ship?

4. DIVINE SERVICES FOR SUNDAY. Divine Services are scheduled as follows: 0645 and 1115, Confessions on the Forecastle. 0730 and 1200, Mass on the Forecastle. 0900, Protestant Communion in the Memorial Chapel. 0945, Latter Day Saints Sacrament in the Memorial Chapel. 1000 and 1300, Protestant Worship on the Forecastle.

5. ATTENTION ALL HANDS - FRESH WATER. We don't want you to be smelly, but you don't need a 5 minute shower to get clean. Wet down for 10 seconds; soap (with water off); rinse for 60 seconds, or less if you can. As short as this is for a shower, it still takes about 5 gallons of water. We are correctly using 39 gallons per man per day - - the allowance is 25. Every man must help conserve. Report fresh water leaks to 885. REMEMBER - DO YOU WANT WATER HOURS?

6. FORRESTAL LOST AND FOUND. LOST girls 1965 high school graduation ring in vicinity of Dental Department. The ring has a black stone with a gold and white shield containing the letters JHS, it also has the initials C.A.T. engraved on the inside, it has a ring guard on it too. If found please return to G.R. FISHER at the Dental Department (996) as soon as possible. REWARD is offered!

FOR OFFICIAL USE ONLY DO NOT REMOVE FROM SHIP

SUNDAY 30 JULY 1967

PLAN OF THE DAY

USS FORRESTAL (CVA 59)

The Plan of the Day contains both official and unofficial matter. All personnel are charged with the knowledge of its contents. All orders shall be considered as issued by the Commanding Officer.

DUTY SECTION: TWO IN CASE OF FIRE DIAL 211

PRESCRIBED UNIFORM	OFFICERS & CPO'S	ENLISTED
Uniform of the Day	Tropical Khaki Long	Undress Whites
Bridge Watch Standers	Tropical Khaki Long	Undress Whites
Working Uniform	Working Khaki (short or long sleeve shirts optional)	Dungaree Trousers with a clean T-Shirt

08-12
12-16
16-18
18-20 Todays watch bill as specified by Navigator.
20-24
00-04
04-08
* The J.O.O.D. will sample the crew's mess prior to assuming the watch.

ROUTINE

Carry out the daily at-sea routine as prescribed in enclosure (1) to USS FORRESTAL INSTRUCTION 5330.1B, except as follows:

0700 Reveille.
0700 Sweepers.
0700 Muster on station. Submit muster reports to the Personnel Office ASAP.
1200 Catholic Mass in the Hangar Bay. Confessions precede Mass.
1300 Protestant Worship in the Hangar Bay.
1400 Sweepers.
1500 Catholic Mass in the Hangar Bay. Confessions precede Mass.
1600 Protestant Worship in the Hangar Bay.
1630 Check the setting of material condition YOKE.
1845 8 O'Clock Reports.
2100 Sweepers.
2130 Catholic Confession and Holy Communion in the Hangar Bay.
2200 Taps.

ANNOUNCEMENTS

1. ATTENTION ALL HANDS. Forrestal's crew members have performed their duties with valor and courage. Through the day, men's lives have been saved and a gigantic fire has been fought in spaces filled with hot steam, smoke and suffocating fumes. Some of our brave comrades are in the eternal care of a righteous God. We thank God that He has much for us to do and the opportunity to clean and repair our ship, learning from this experience to carry our responsibilities even more effectively.

2. ALL DEPARTMENTS. Transfer Yankee Team Assets to USS INTREPID begins as soon as possible today.

3. ALL HANDS. Six members of the Press will be visiting Forrestal this morning at approximately 0800. All hands will be expected to extend usual hospitality to our News Media friends.

4. WARNING. Until word is passed that all is safe to walk aft of frame 175, all hands are directed to remain ahead of frame 175. There is great danger of poision gas in the burned out areas of the ship. Do not go into area where fire existed unless you are a properly OBA equipped member of a working party!

5. ALL DIVISIONS. Clean up day is today. All division officers ensure that areas which they are responsible for are cleaned and maintained that way.

6. ALL HANDS. General Messing will be in the forward galley only today.

7. OFFICERS. Wardroom services will be in wardroom #1 only unless otherwise announced.

G. F. SMITH
Executive Officer

The explosion on the *Forrestal* caused significant damage, as illustrated by the wreckage of the deck and destroyed aircraft.

Plan of the Day

USS *Forrestal* (CVA 59)

National Naval Aviation Museum

On 29 July 1967, a fire broke out on board aircraft carrier USS *Forrestal*. A subsequent chain of explosions killed 134 sailors and injured 161. A ship's plan of the day would detail routine operations, schedules, training, uniform requirements for the day's duty. *Forrestal*'s plan of the day for 30 July 1967 discusses the fire and the tragic loss of life the previous day.

Ghost Battalion Flag

U.S. Navy Seabee Museum

During the summer of 1967, the U.S. Army sent out an urgent request for an airfield at Quang Tri, Republic of Vietnam. The airfield at Dong Ha was within range of North Vietnamese guns that were routinely subjecting the facilities to heavy bombardment, and they needed an airfield to support a counterassault. The Navy tasked the Seabees with completing the assignment in no more than 45 days, but no single battalion could complete the last-minute task. Instead, construction was placed under the operational control of the 32nd Naval Construction Regiment and detachments of officers, men, and equipment from Naval Mobile Construction Battalions 1, 3, 4, 7, 10, 11, 74, 121, and 133 worked together to carry out the project.

The project was top secret, and the location was simply identified as site "X." When the first detachments gathered together at site "X" on 15 September 1967, they dubbed themselves the "Ghost Battalion," and shortly thereafter began flying a black flag with a white skull and crossbones and the words "Ghost Battalion."

The mission was completed in 38 days and the men of the Ghost Battalion returned to their parent units. The airfield at Quang Tri was later expanded into a much larger installation and three years later was used by the South Vietnamese armed forces as the principal staging area for attacking North Vietnamese forces along the Ho Chi Minh Trail.

John Graf's Flight Jacket

Hampton Roads Naval Museum

During the Vietnam War, naval intelligence personnel provided information that enabled successful Navy operations. From the air, sea, and land, sailors collected information about North Vietnamese and Viet Cong plans and capabilities. Their missions were dangerous and often deadly. Lieutenant Commander John "Jack" Graf was operating as a naval advisor and intelligence officer near Saigon and the Upper Mekong Delta. The Viet Cong captured Graf on 15 November 1969, during an aerial reconnaissance mission. According to his captors, Graf drowned during an escape attempt in February 1970. His remains were never located. He served for over twenty years, including time as a bomber/navigator in an A3D Skywarrior.

Highway One South of Pau Bai
by John Charles Roach

Acrylic on Paper, 1968
U.S. Navy Art Collection

In this painting, Seabees of Mobile Construction Battalion 3 labor to keep Route 1, Vietnam's crucial north-south logistical lifeline, open. Navy Seabees built roads, bridges, homes, schools, and other civic and commercial buildings in Vietnam. In addition to being concerned with the logistical needs for these public works, their efforts demonstrated allied interest in national morale and welfare.

U.S. Navy combat artist John Charles Roach used acrylic paints to capture the impact of this conflict on the Vietnamese civilians and the vital role played by the Seabees through this experience.

Vietnam Prisoner-of-War Cup

National Naval Aviation Museum

This metal cup belonged to prisoner of war Lieutenant Jack Ensch during his time as a prisoner at the infamous Hoa Lo prison camp in North Vietnam. Prisoners referred to the camp as the Hanoi Hilton. The cup shows hand etching of two aircraft sent flaming to earth. Like many prisoners of war, Ensch sought out ways to document and commemorate his time in captivity. In total, Ensch spent 216 days in captivity before being released during Operation Homecoming on 29 March 1973.

Objects from a Prisoner of War

U.S. Naval Academy Museum

Lieutenant Commander John M. McGrath was a prisoner of war incarcerated in North Vietnam's "Hanoi Hilton" prison for six years. Following graduation from the U.S. Naval Academy in 1962, he completed flight training and was designated a naval aviator on 22 November 1963. He served a one-year assignment as a flight instructor from November 1963 until October 1964. He next flew the A-4C Skyhawk at NAS Lemoore in California until May 1965, and then joined VA-146, "The Blue Diamonds," flying 157 combat missions in Southeast Asia off USS *Ranger* (CVA 61) and another 22 missions off USS *Constellation* (CVA 64) before he was shot down by antiaircraft fire on 30 June 1967.

In an attempt to obtain military information and false confessions for propaganda purposes, he was held as a prisoner of war and subjected to extreme mental and physical cruelties from July 1967 until May 1969. His continued resistance contributed significantly to the eventual abandonment of torture by the North Vietnamese, which was attracting international attention and condemnation. After being held captive for 2,075 days, he was at last released on 4 March 1973 as part of Operation Homecoming. Following hospitalization, he resumed his naval career and attained the rank of captain before retiring on 10 January 1987.

Cessna O-1 Bird Dog Aircraft

National Naval Aviation Museum

The Navy acquired 97 Cessna O-1C (O-1 variant) spotter planes for the Marine Corps in 1951, with the aircraft serving throughout the conflicts in Korea and Vietnam. In April 1975, during the Saigon evacuation, South Vietnamese Air Force pilot Major Bung-Ly loaded his family into an O-1, took off from Con Son Island and spotted USS *Midway* (CVA 41). After dropping a handwritten message detailing his situation, *Midway* cleared the flight deck and Bung-Ly landed aboard. His aircraft was transferred to the National Naval Aviation Museum for display just months after the landing.

Medals of Honor

The Medal of Honor is the highest military decoration awarded for valor by the United States to members of the U.S. armed forces. Authorized by Congress and signed into law by President Abraham Lincoln on 21 December 1861, the Medal of Honor was originally only awarded to enlisted U.S. Navy sailors and U.S. Marines. In 1862, a separate bill created an Army Medal of Honor for enlisted personnel, and a year later Army officers became eligible. Ironically, though the Navy and Marine Corps were the first services eligible to receive the medal, the Army was the first service branch to award the Medal of Honor.

The Navy's Medal of Honor has changed both in appearance and in criteria for awardees since its inception. The ribbon, originally red, white, and blue, changed in 1913 to light blue signifying valor, with 13 stars for the original 13 American colonies. The anchor suspension also changed, with the rope around the anchor removed. In 1919, the Department of the Navy decided to award two separate designs for their Medal of Honor. One medal—designed by Tiffany and Co.—was to be awarded for combat actions and became known as the Tiffany Cross. The second, the existing five-pointed star design, for non-combat situations. The Tiffany Cross proved unpopular and in 1942 the Navy reverted back to a single award, the five-pointed star design. In 1964, the Navy added a cravat pad centered above the medal suspension, moving the 13 stars from the ribbon to cravat pad

In 1915, Navy officers were eligible to receive the Medal of Honor, and, in 1963, Congress updated the criteria for awarding the medal. According to Federal Law 10 USC (U.S. Code) 8291, naval service recipients may only receive the medal "through conspicuous gallantry and intrepidity at the risk of life above and beyond the call of duty." As of 2025, only 749 Navy sailors have been awarded the Medal of Honor.

Medal engraving:
Personal Valor
JOACHIM PEASE
(Colored) Seaman
U.S.S. Kearsarge
Destruction of the Alabama
June 9, 1861

Seaman Joachim Pease

Central Artifact Collection
Curator Branch

During the American Civil War, CSS *Alabama* became one of the Confederate navy's most successful raiders, interrupting commerce for the Union throughout the world. By spring 1864, after two years of raiding, *Alabama* put into port at Cherbourg, France, to refit and repair the ship. USS *Kearsarge,* dispatched to find *Alabama* and end its raiding spree, arrived outside of the harbor soon after. On 19 June 1864, *Alabama* sailed out to meet the *Kearsarge.* The battle lasted only an hour, with *Alabama* on fire and sinking. Seaman Joachim Pease was the loader on *Kearsarge*'s No. 2 gun. He exhibited "marked coolness and good conduct" during the engagement and was subsequently awarded the Medal of Honor for his actions during the engagement.

Medal engraving:
Personal Valor
John Dempster
Cockswain
U.S.S. New Ironsides
Fort Fisher
Dec. 1864 & Jan. 1865

Coxswain John Dempster

Central Artifact Collection
Curator Branch

Coxswain John Dempster was stationed on USS *New Ironsides* (1862) during the American Civil War. He participated in both the first battle of Fort Fisher in December 1864 and the second battle of Fort Fisher in January 1865. Fort Fisher, a Confederate fort in North Carolina, protected the last remaining open Confederate port of Wilmington, North Carolina. After the second battle, the port at Wilmington was soon taken by Union forces. Dempster was awarded the Medal of Honor for personal valor for his participation in these engagements.

Apprentice First Class William Levery

Central Artifact Collection
Curator Branch

During the Spanish-American War, the United States decided to sever the underwater communication cables at Cienfuegos, a city on the southern coast of Cuba. Two U.S. Navy vessels, USS *Marblehead* (Cruiser No. 11) and USS *Nashville* (later designated PG 7), as well as a revenue cutter, USRC *Windom,* participated in this action. Apprentice First Class William Levery was part of the crew of men assigned to use small boats from these vessels tasked with cutting the cables. For his heroism and gallantry under fire during this operation, Levery was awarded the Medal of Honor.

Medal engraving:
FOR HEROISM
AND GALLANTRY
UNDER FIRE OF ENEMY
WILLIAM LEVERY
APPRENTICE 1ST CLASS
U.S.S. MARBLEHEAD,
CUTTING CABLES
CIENFUEGOS, CUBA.
MAY 11, 1898

Medlal engraving:
FOR HEROISM
IN THE LINE OF DUTY
ACCIDENT TO THE BOILER
OF THE
U.S.S. VIXEN
ON THE NIGHT OF MAY 28 - 1898
PETER JOHNSON
FIREMAN FIRST CLASS
U.S. NAVY

Fireman First Class Peter Johnson

Central Artifact Collection
Curator Branch

On the night of 28 May 1898, USS *Vixen* (later designated PY 4) was off the coast of Cuba, participating in the Spanish-American War, when the ship's Fireman First Class Peter Johnson responded to a boiler explosion on the vessel. He was awarded the Medal of Honor for heroism and displaying, "great coolness and self-possession in entering the fireroom."

Vixen continued to participate in the war, engaging in the Battle of Santiago on 3 July 1898 and transporting soldiers involved in reconnaissance activities, including then–Army Colonel and future President Theodore Roosevelt.

Background: USS *Vixen* at Santiago, Cuba, on 20 May 1903.

Pharmacist's Mate John Henry Balch

Central Artifact Collection
Curator Branch

Medal engraving:
AWARDED TO
JOHN HENRY BALCH
PHARMACIST'S MATE 1C
UNITED STATES NAVY
VIERZY, FRANCE
JULY 19, 1918

Pharmacist's Mate First Class John Henry Balch joined the Navy in May 1917 and was assigned duty with the 3rd Battalion, 6th Regiment of U.S. Marines as part of the American Expeditionary Force during World War I. While in France, Balch participated in the multiple battles in France, including Belleau Wood and Chateau-Thierry. On 19 July 1918 at Vierzy, Balch "unhesitatingly and fearlessly exposed himself to terrific machinegun and high-explosive fire to succor the wounded as they fell." On 5 October 1918 at Somme-Py, he "exhibited exceptional bravery in establishing an advanced dressing station under heavy shellfire." Balch was awarded the Medal of Honor for his actions at Vierzy and Somme-Py. He was discharged in 1919. On 2 September 1942, he rejoined the Naval Reserve as a lieutenant and later retired in June 1950 as a commander in the U.S. Navy.

Medal engraving:
CHIEF WATER TENDER
PETER TOMICH
U.S. NAVY, DECEASED
FOR DISTINGUISHED CONDUCT
IN THE LINE OF HIS
PROFESSION ON OCCASION
JAPANESE ATTACK ON
PEARL HARBOR,
TERRITORY OF HAWAII,
DECEMBER 7, 1941

Above: Chief Watertender Peter Tomich. *Below:* The capsized USS *Utah* shown after the attack at Pearl Harbor. *Utah* was struck by a Japanese torpedo and quickly began to list and then capsizing. The ship was never fully salvaged and is accessible from Ford Island, Hawaii. (LOC)

Chief Watertender Peter Tomich

Central Artifact Collection
Curator Branch

Peter Tomich was born in Prolog, in what is now Bosnia-Herzegovina, in 1893. He later immigrated to the United States and joined the Navy. In 1941, Chief Tomich was assigned to USS *Utah* (AG 16) at Pearl Harbor, Hawaii. *Utah* was a disarmed target ship and, as such, was not moored at Battleship Row with the active-duty battleships. However, on 7 December 1941, *Utah* was among the first to be attacked. Thirteen minutes into the attack the ship was hit by two torpedoes and began to roll to its port side. When the call to abandon ship was given, Chief Tomich elected to remain in the engineering plant to secure the boilers and make certain all personnel had left their stations. In doing so, he lost his life and was posthumously awarded the Medal of Honor. The Navy later honored Chief Tomich by naming a ship—USS *Tomich* (DE 242)—after him. In 1989, the Senior Enlisted Academy established Tomich Hall, a dedicated facility at the Naval War College to train Navy enlisted leaders.

Medal engraving:
MARVIN G. SHIELDS
CONSTRUCTION MECHANIC
THIRD CLASS
UNITED STATES NAVY
FOR ACTION ABOVE AND BEYOND
THE CALL OF DUTY IN DONG XOAI
REPUBLIC OF VIETNAM
ON 10 JUNE
1965

Construction Mechanic Third Class Marvin Glenn Shields

U.S. Navy Seabee Museum

On 10 June 1965 in Dong Xoia, Vietnam, Construction Mechanic Third Class Marvin Shields was assigned to Mobile Construction Battalion 11 and was at the compound of Detachment A-342, 5th Special Forces Group (Airborne), 1st Special Forces, when the location was attacked. Despite being wounded several times during the engagement, Shields continued to resupply American forces with ammunition, carried wounded personnel to safety, and returned fire at the attacking Viet Cong over a period of seven hours. When the calls for volunteers were made to destroy an enemy machine-gun emplacement, though wounded, Shields instantly offered to assist. Using a 3.5-inch rocket launcher, the team succeeded in silencing the machine gun, but Shields was mortally wounded when returning to his position. Shields was posthumously awarded the Medal of Honor, the only Navy Seabee to receive the nation's highest military award for valor.

Medal engraving:
CLYDE E. LASSEN
LIEUTENANT
UNITED STATES NAVY
FOR ACTION ABOVE AND BEYOND THE CALL OF DUTY IN THE REPUBLIC OF VIETNAM ON 19 JUNE 1968

Lieutenant Clyde Everett Lassen

National Naval Aviation Museum

Lieutenant Junior Grade Clyde Everett Lassen was a pilot attached to Helicopter Support Squadron 7 during the conflict in Vietnam. Just after midnight on 19 June 1968, Lassen was dispatched to conduct search-and-rescue operations for two downed aviators in North Vietnam. Flying over heavily forested areas and steep terrain, Lassen made multiple attempts to rescue the aviators. Using flares to illuminate the area, Lassen was able to hover between several trees. As the flares burned out and the light was lost the aircraft collided with a tree, forcing it to rapidly descend. Lassen quickly recovered and continued to search for a location to land. After a second flare illumination attempt was unsuccessful and being low on fuel, Lassen turned on the aircraft's landing lights, exposing his location to enemy forces. He was then able to retrieve the aviators, and after evading enemy antiaircraft fire, landed on USS *Jouett* (DLG 29).

1991–2000

The final decade of the twentieth century marked a period of transition and transformation for the United States Navy. Emerging from the final years of the Cold War, the Navy was called upon to redefine its mission while demonstrating its global reach.

The Navy was instrumental in the 1990–91 Gulf War, liberating Kuwait following its invasion by Iraq. During operations Desert Storm and Desert Shield, the U.S. military led coalition forces from more than two dozen nations against Iraq. Naval aircraft flew from six aircraft carriers while the battleships USS *Missouri* (BB 63) and USS *Wisconsin* (BB 64) fired their 16-inch guns for the first time since the Korean War. U.S. Navy ships, submarines, and aircraft played a pivotal role in the decisive victory for the coalition forces. Later in the decade, Navy aircraft flew sorties against targets in Kosovo and Serbia as part of a NATO coalition effort. The Navy contributed heavily to strike missions while supporting humanitarian efforts in the region.

At the same time, the service moved toward a more inclusive future, with naval communities increasingly opened to female sailors. In 1994, USS *Dwight D. Eisenhower* (CVN 69) became the first carrier to deploy with female crewmembers. USS *Constitution,* the oldest commissioned warship afloat in the world, not only welcomed its first female officer, but also sailed under its own power for the first time in over a century.

During the 1990s, technological and professional developments shaped the fleet. Through its operations, policy shifts, and technological adaptations, the Navy laid the groundwork for its role in the twenty-first century, balancing tradition with transformation in an era of profound global change. Yet the decade ended with tragedy as the bombing of USS *Cole* (DDG 67) in 2000 reminded the Navy of the ever-present risks of global service.

Flight Helmet

National Naval Aviation Museum

Lieutenant Commander Mark Fox wore this helmet on the first day of Operation Desert Storm when he and Lieutenant Nick Mongillo of Strike Fighter Squadron (VFA) 81 demonstrated the versatility of the F/A-18 Hornet aircraft. Thirty-five miles from their intended target, the pair encountered two Iraqi MiG-21 fighters. Shifting to air-to-air mode, the two aviators engaged and shot down the enemy, returned to air-to-ground mode, and successfully delivered their MK-84 bombs on target. Fox retired with the rank of vice admiral.

Lieutenant Commander Mark Fox sitting in the cockpit of the F/A-18 Hornet aircraft that he flew during Operation Desert Storm.

Adm. Joseph Reason, 1996. (NARA)

First Class Midshipman Parade Jacket

U.S. Naval Academy Museum

During his junior year at Howard University, Joseph Paul Reason was encouraged by Congressman Charles Diggs (D-MI) to apply to the Naval Academy. He was accepted and reported to Annapolis in 1961. This first-class midshipman parade jacket was used by then-midshipman Reason while he attended the academy.

After graduation, he attended Nuclear Power School and the Naval Nuclear Power Training Unit before assignment to the cruiser USS *Truxtun* (CGN 35) when he participated in the ship's first deployment to Southeast Asia in 1968. In 1970, he earned a master's degree in computer systems management at the Naval Postgraduate School. Between 1970 and 1973, he deployed twice to Southeast Asia aboard the aircraft carrier USS *Enterprise* (CVN 65). He returned to *Truxtun* in 1974 as a combat systems officer. His next shore assignment brought him to the Bureau of Naval Personnel in Washington, DC, where he remained until December 1976 when he was selected as naval aide to President Jimmy Carter, a post he held until 1979. Follow-on assignments saw him command USS *Coontz* (DDG 40) and USS *Bainbridge* (CGN 25).

Reason was promoted to captain in 1983, rear admiral (lower half) in 1986, rear admiral (upper half) in 1990, and vice admiral in 1991. He served as Deputy Chief of Naval Operations from 1994 until 1996. In 1996, he was again promoted and assumed the position of Commander in Chief, U.S. Atlantic Fleet, as a four-star admiral.

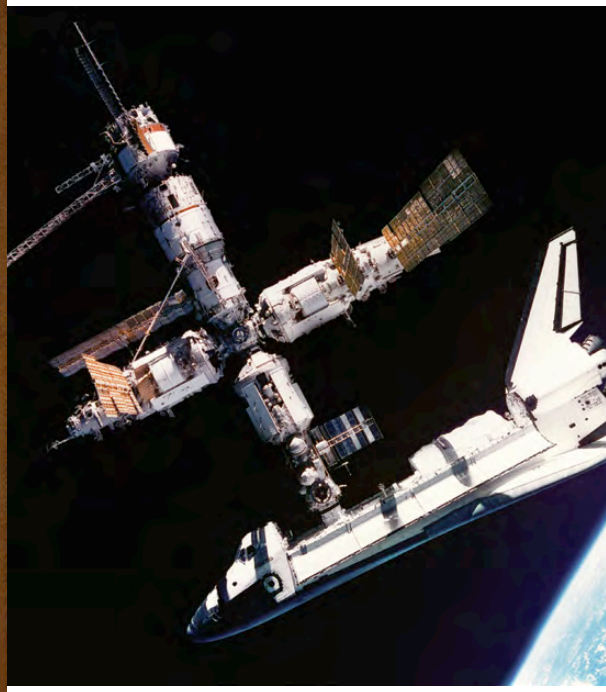
Seabee Combat Warfare Specialist Pins

U.S. Navy Seabee Museum

Seabee Combat Warfare Specialist is a U.S. Navy warfare qualification. The insignia is issued in silver for enlisted personnel and gold for officers. The insignia features an armed Seabee, superimposed over a crossed sword and Springfield M1903 rifle atop oak leaves. The bee is also the insignia for the Navy Seabees as a whole.

To be eligible to earn the Seabee Combat Warfare Specialist insignia, personnel must first be assigned to a qualifying unit of the Naval Construction Force (Seabees). Qualification is primarily earned by enlisted members of the Seabee occupational field ratings and members of the Civil Engineer Corps; however, the insignia may be earned by any officer or enlisted member assigned to a qualifying unit having completed the prescribed requirements.

The Seabee Combat Warfare Specialist program was approved in March 1992. The design evolved over the coming months followed by approvals and production of the device. The U.S. Navy Seabee Museum has the original prototypes for both officer and enlisted pins.



Space Shuttle *Atlantis* docked with the Russian space station *Mir.* (NASA)

Copper Bolt

NHHC Detachment Boston

In commemoration of USS *Constitution*'s 200th anniversary in 1997, this copper bolt, which had been removed from the ship's hull in November 1992, traveled into space on board the space shuttle *Atlantis* (STS 71), from 27 June to 7 July 1995. On this mission, *Atlantis* made the first-ever rendezvous and docking of a U.S. space shuttle with the Russian space station *Mir.* This *Constitution* bolt was not the first piece of "Old Ironsides" to be sent to space, however. During space shuttle *Discovery*'s (STS 31) 24–29 April 1990 flight, a piece of *Constitution* wood loaned from the U.S. Naval Academy Museum's collection was on board. The *Discovery* mission was also an historic one as the Hubble Space Telescope was launched from the shuttle on 25 April 1990.

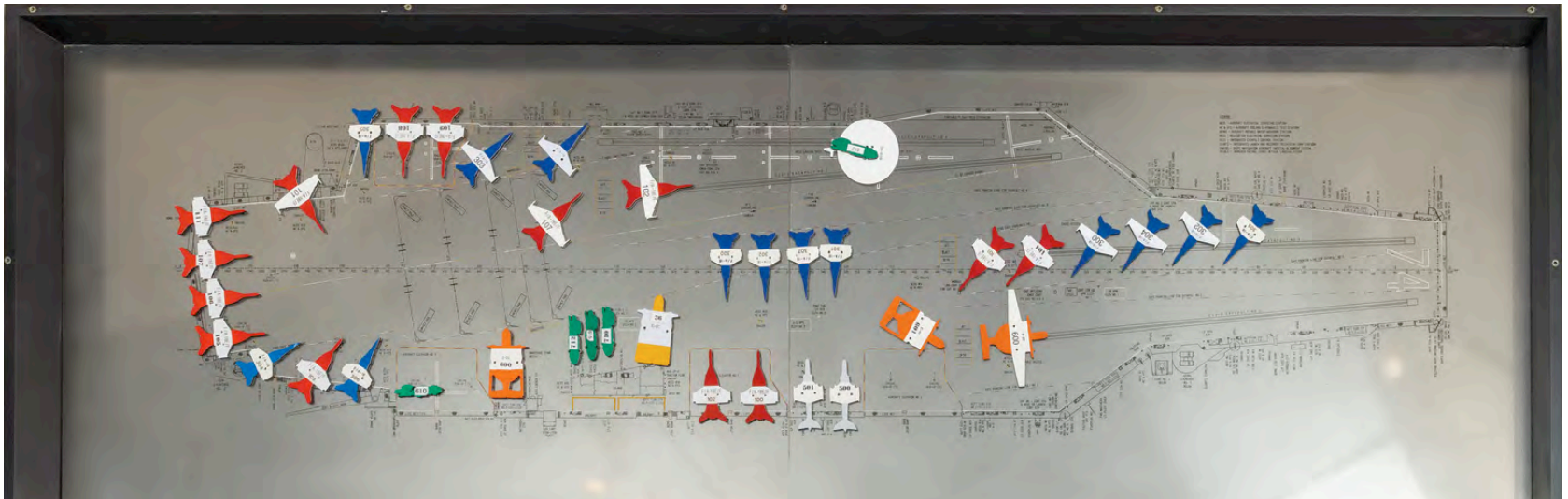
Ouija Board

Puget Sound Navy Museum

In order to track aircraft movement on the flight deck of a carrier in real time, a large-format graphic representation of the flight deck and aircraft is used. Informally referred to as the "Ouija board," it consists of a two-dimensional outline of the ship's flight deck, a set of plastic aircraft models representing each aircraft operating aboard the carrier, and an assortment of thumbtacks, spare bolts, and even playing pieces from various board games. Each of these small pieces represents information about the aircraft, such as which requires maintenance or refueling. During flight operations, sailors move pieces around the board to represent the location and status of the aircraft aboard. This board is from USS *John C. Stennis* (CVN 74).

This system provides a clear, visual overview of the flight deck, which is critical for maintaining operational flow and smooth, safe flight operations during high-pressure situations. It is so effective that the Ouija board's design has changed minimally since World War II.

Seaman 1st Class Leonard Cassidy with the Ouija board from USS *Randolph* (CV 15), c. 1945.



Tailhook

Puget Sound Navy Museum

Pilots landing an aircraft on an aircraft carrier use a tailhook to bring the jet to a quick stop. Attached to the rear of the aircraft, the tailhook catches on an arresting wire, a steel cable, stretched across the deck of the ship. This tailhook came from an E-2 Hawkeye that was used to land aboard USS *John C. Stennis* (CVN 74).

Aircraft carriers have very short flight decks compared to the runways used by planes landing at an airport. Skilled naval aviators undergo extensive training specifically to learn how to land their aircraft safely. It is one of the most difficult tasks for a Navy pilot because of the precision required to land at precisely the right moment on a short deck that sways with the sea.

A *Nimitz*–class aircraft carrier typically has four arresting wires on its flight deck. The pilot approaches the ship at a speed of around 135 knots (155 miles per hour). After the tailhook catches on one of these wires, the aircraft decelerates rapidly, coming to a complete stop within mere seconds.

Master Chief Petty Officer of the Navy Rick West. (U.S. Navy)

Enlisted Qualification Flag

U.S. Naval Undersea Museum

Before Master Chief Electronics Technician Rick West became the 12th Master Chief Petty Officer of the Navy, he served as the chief of the boat on the submarine USS *Portsmouth* (SSN 707) from 1995 to 1997.

Under West's leadership, *Portsmouth*'s crew earned the rare achievement of flying this enlisted qualification flag, which indicated that every enlisted sailor on board was qualified in submarines. Earning the submarine warfare insignia is widely perceived to be one of the hardest qualifications in the Navy.

A career submariner, West enlisted in the Navy in 1981 and served in submarines for more than 20 years, rising quickly through the ranks. Four tours as the senior enlisted leader at major commands, including as the fleet master chief at U.S. Pacific Fleet and at U.S. Fleet Forces Command, positioned West for selection as the Master Chief Petty Officer of the Navy, the Navy's senior most enlisted position, which he held from 2008 to 2012.

Broom

Submarine Force Museum

During World War II, U.S. Navy submarines returning to homeport would fix brooms to their boat's periscope to signify a successful combat patrol, or "clean sweep." Because of the classified nature of their mission, modern nuclear submarines do not ordinarily engage in combat operations, nor are they allowed to publicly laud their successes. But, in the case of USS *Miami* (SSN 755) in 1999, when it returned home from deployment with this broom raised aloft on its two periscopes, they indicated its crew had achieved a true "clean sweep." During their deployment, they had successfully conducted strike operations for Operation Desert Fox and Operation Noble Anvil, marking the first time since World War II that a submarine had completed combat operations in multiple theaters.

USS *Miami* (SSN 755) returns home with two brooms attached to its periscopes, showing a "clean sweep" during its 1999 patrol.

USS *Constitution* 1812 Uniform

NHHC Detachment Boston

Lieutenant Commander Claire V. Bloom was assigned as executive officer to Commander Michael C. Beck when he and his crew sailed "Old Ironsides" for the first time in 116 years on 21 July 1997 in commemoration of the warship's 200th anniversary. Bloom continued as Commander Christopher A. Melhuish's executive officer before retiring from the U.S. Navy in 1998. During the 1997 celebrations for *Constitution*'s milestone 200 years of service, Bloom wore this uniform for ceremonial occasions, including parades, speeches, and presentations. The uniform is based upon the 1802 U.S. Navy uniform regulations, which governed Navy officer uniforms at the beginning of the War of 1812. After *Constitution*'s sail in 1997 and with the change of command from Commander Beck to Commander Melhuish, Lieutenant Commander Bloom received an updated uniform that represented the late War of 1812 era.

This uniform, however, is the one that saw Bloom through 1997 as the executive officer on "Old Ironsides." Uniforms representative of the War of 1812-era are worn by the officers and crew of *Constitution* and are official Navy organizational uniforms. Since the 1970s, continued research has brought to light a more refined understanding of the U.S. Navy uniforms worn during the early nineteenth century. In turn, *Constitution*'s War of 1812–era uniforms have evolved over the last several decades to reflect this new research.

Queen of the Fleet
by Erick Marshall Murray
Acrylic on Canvas, 1997
U.S. Navy Art Collection

On 21 July 1997, the world's oldest commissioned warship afloat, USS *Constitution*, sailed under its own power for the first time in 116 years. Assigned to cover the event, Draftsman First Class Erick M. Murray's painting *Queen of the Fleet* captures the moment when *Constitution*, accompanied by the Navy's newest frigate, USS *Halyburton* (FFG 40), behind it and the Navy's newest ship, USS *Ramage* (DDG 61), ahead of it, renders a cannon salute while the Blue Angels fly overhead. This acrylic painting does what no photograph could—putting all those moments together in one composite image.

Clock

Hampton Roads Naval Museum

On 12 October 2000, al-Qaeda terrorists exploded a small boat alongside USS *Cole* (DDG 67) while the guided missile destroyer refueled in Yemen. The explosion blew a 40-foot hole in the ship's port side, killing 17 sailors. This clock hung in Command Master Chief James Parlier's office and its proximity to the blast caused it to stop functioning at that precise moment. The FBI used this clock to pinpoint the exact time of the explosion, at 1118 local time.

USS *Cole* is being towed into open ocean by USNS *Catawba* (T ATF 168) in preparation to be placed on the heavy transport ship M/V *Blue Marlin,* headed to the United States for repair on 29 October 2000. (Defense Visual Information Distribution Service [DVIDS])

2001–Present

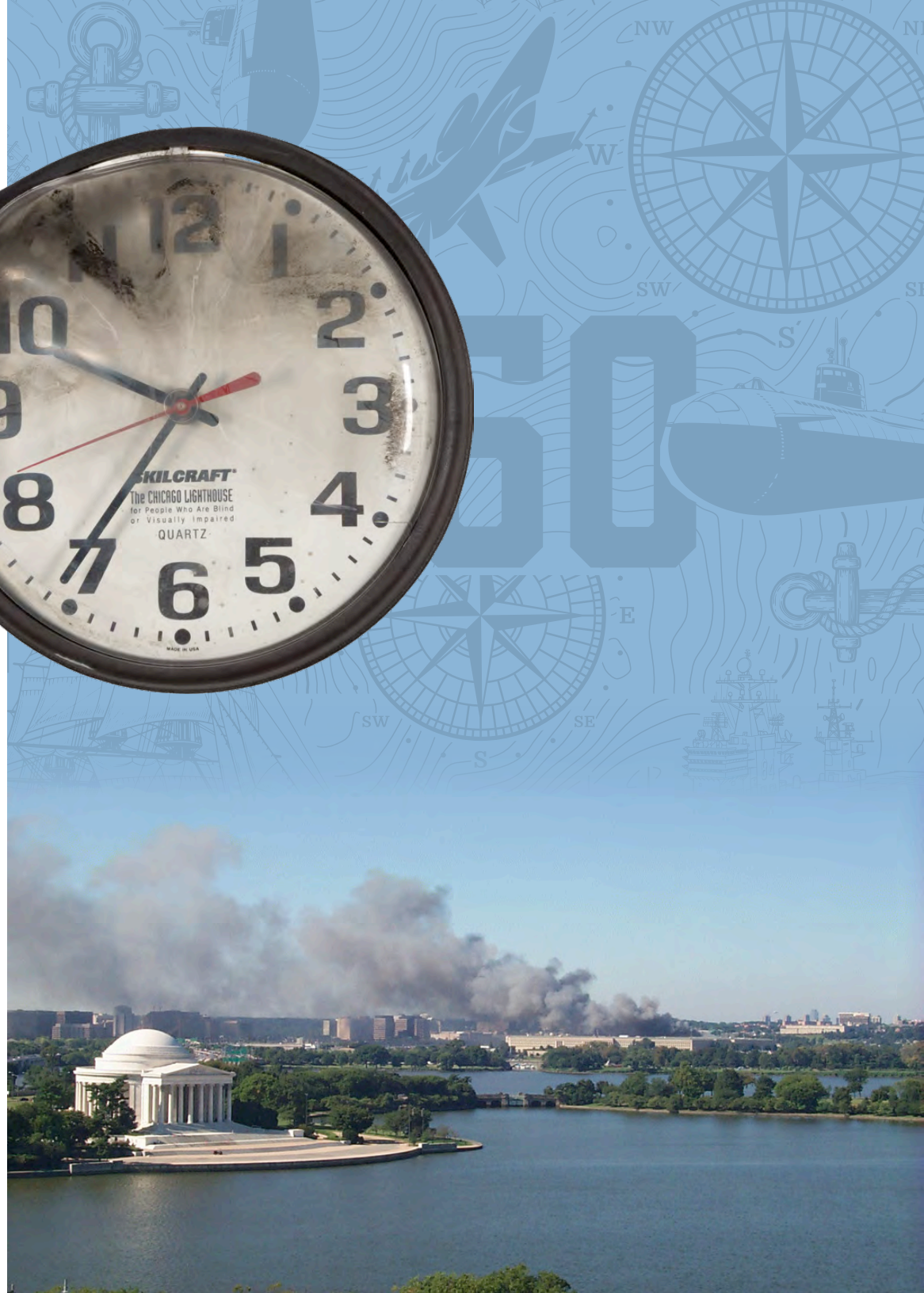
After the deadly attacks at the World Trade Center, Pentagon, and the downing of United Airlines Flight 93 in Pennsylvania on 11 September 2001, the U.S. Navy quickly mobilized in response. The opening salvos of Operation Enduring Freedom included ship and submarine-based missile launches at Taliban and al-Qaeda targets in Afghanistan. Without access to a local airfield, naval aviators flew hundreds of nautical miles to the mission targets from their carrier-based strike groups in the North Arabian Sea. Thousands of long-range missions were flown, delivering precision-guided munitions often aided by special operations forces on the ground. Without a naval peer during this conflict, there were no major naval battles like those in World War II. After the initial response, the naval operations focused on conducting patrols for maritime security, anti-piracy, and the protection of commerce, with special operations forces engaging in counterterrorism and asymmetrical warfare operations and Seabees participating in infrastructure reconstruction efforts. With global threats constantly shifting and evolving, the U.S. Navy, Marine Corps, and Coast Guard issued a joint maritime strategy for the twenty-first century, with a focus on partnerships to combat emerging threats to U.S. security.

The Navy's continued technological developments with the *Gerald R. Ford*–class of aircraft carriers, the *Virginia* class of fast attack submarines, and the F-35 Joint Strike Fighter program have created a modern Navy available to respond to the constantly shifting political landscape. Construction of maritime skills training centers that include advanced simulators are allowing the Navy to provide investments in the education of the enlisted force. This marriage of highly trained sailors operating on cutting-edge platforms is a lethal combination and provides the Navy with the tools it needs to meet its mission to defend freedom, preserve economic prosperity, and keep the seas open and free.

Clock

Central Artifact Collection
Curator Branch

On 11 September 2001, terrorists hijacked American Airlines Flight 77 from Dulles airport in Virginia and flew the aircraft into the west side of the Pentagon, striking the building at 0937. The impact killed the 64 people on board and 125 people in the Pentagon. This event, coupled with the attack on the World Trade Center in New York and the hijacking of United Airlines Flight 93 and its subsequent crash, triggered a response by the United States and its allies to engage those responsible, sparking the Global War on Terrorism. This clock was recovered from the Navy command center in the Pentagon, showing damage from the attack on the building.



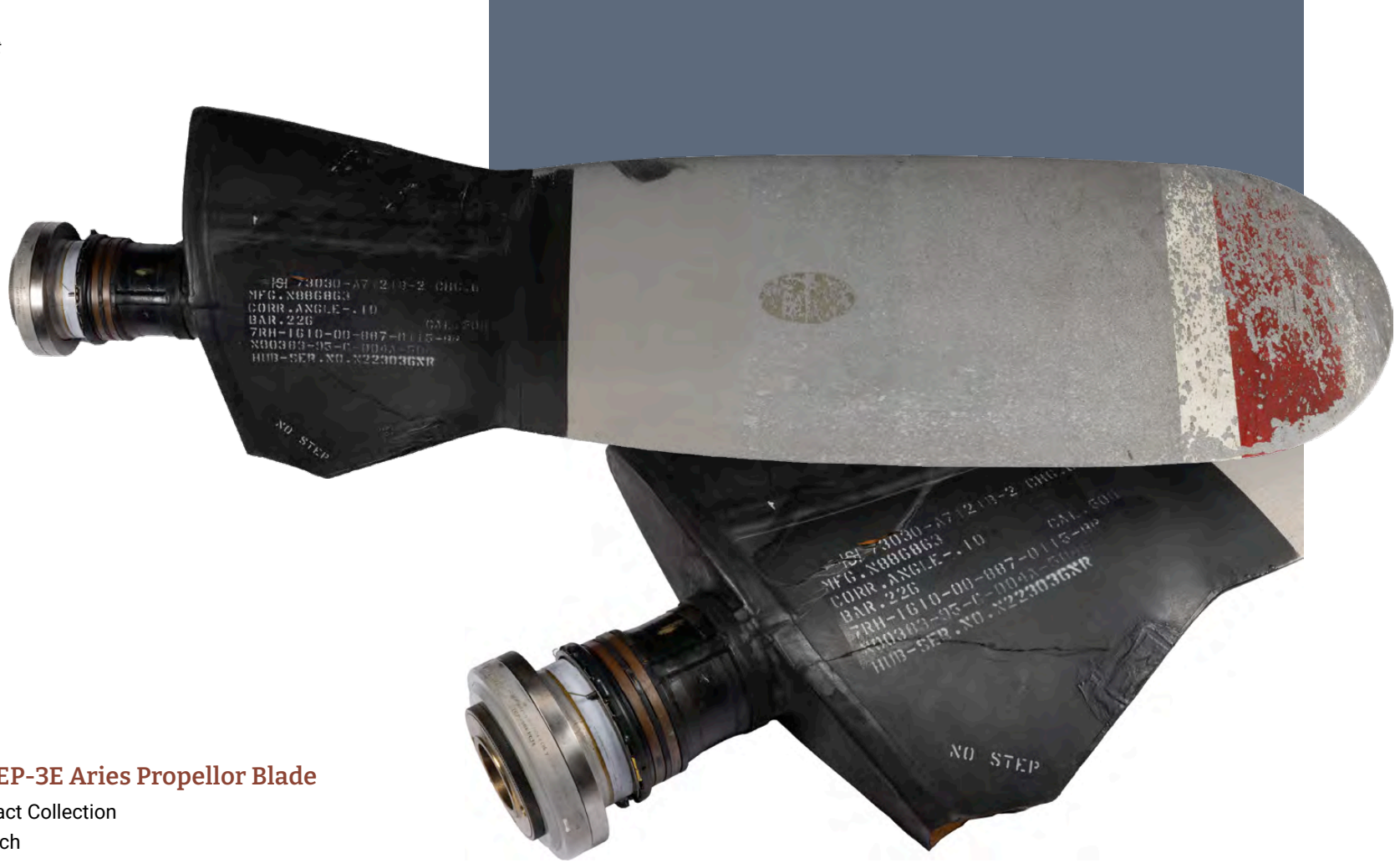
Smoke rises from the Pentagon following the 11 September 2001 attack. The Thomas Jefferson Memorial and Tidal Basin are seen in the foreground. (Department of War)

"We Stand by You" Bedsheet

Central Artifact Collection
Curator Branch

When the attacks on the World Trade Center and Pentagon occurred on 11 September 2001, USS *Winston S. Churchill* (DDG 81) was underway off the southern coast of England, conducting exercises with allied navies. Three days later on 14 September, the German destroyer FGS *Lütjens* signaled the desire to approach *Churchill* while underway. In a demonstration of tremendous support and empathy, the crew of *Lütjens* rendered honors by manning the rails, flying the American flag at half-mast, and presenting this bedsheet on the rails, conveying the message "We Stand By You" in the aftermath of the attacks. The bedsheet was later given to a U.S. congressman, who, in turn, donated it to the Navy. Coincidentally, both *Churchill* and *Lütjens* were built by Bath Iron Works in Bath, Maine, and ironically the ships' namesakes, British Prime Minister Winston Churchill, and German Admiral Günther Lütjens, were enemies during World War II.

Crew of the German destroyer FGS *Lütjens* holding the bedsheet for the crew of the USS *Winston S. Churchill* (DDG 81). (DVIDS)



Lockheed EP-3E Aries Propellor Blade

Central Artifact Collection
Curator Branch

This propellor blade is from the Lockheed EP-3E Aries, Bureau Number 156511, part of Fleet Air Reconnaissance Squadron (VQ) 1. On 1 April 2001, this aircraft collided with a Chinese navy J-8 fighter jet over the South China Sea. The collision resulted in the death of the Chinese pilot and forced the crew of the EP-3E to execute an emergency landing at an airfield on Hainan, China. The 24-member crew of the EP-3E survived the landing and were detained by the Chinese government.

Over the next 11 days, the crew were subject to interrogation while the aircraft was studied for classified information. The U.S. and Chinese governments reached an agreement to return the crew, and on 12 April, the Navy personnel departed China. The aircraft was permitted to leave China but only if disassembled first. By July 2001, the airframe was on U.S. soil, reassembled, repaired, and subsequently returned to active service. This propellor blade came into the Central Artifact Collection in 2002. With the disestablishment of VQ 1, this airframe left Navy service and was transferred to Pima Air and Space Museum, in Arizona, in 2024.

Master Chief Britt Slabinski. (DVIDS)

Stoner SR-25 Rifle

Central Artifact Collection
Curator Branch

This rifle was used by U.S. Navy Senior Chief Special Warfare Operator (SEAL) Britt K. Slabinski in 2002 as part of Operation Anaconda. While leading a reconnaissance team to an area on the top of Takur Ghar, a snow-covered mountain in Afghanistan, Slabinski led a portion of his SEAL element on a rescue mission to assist Aviation Boatswain's Mate First Class Neil C. Roberts. Roberts was on board the insertion helicopter when it took fire from a rocket-propelled grenade, and he was thrown from the aircraft. Over the course of more than 14 hours, much of it under constant enemy fire, Slabinski led his team on a rescue operation, directed medical care, and carried a wounded teammate through waist-deep snow. For his actions on 2 March 2002, Slabinski was awarded the Navy Cross, which was later upgraded to the Medal of Honor in 2018. He retired in 2014 as a master chief with 25 years of military service.

Gold-Plated Al Kadesih Semi-Automatic Rifle

U.S. Navy Seabee Museum

This gold-plated Al Kadesih, a variant of the Russian Dragunov, was part of a cache found in 2003 by U.S. Marines and Seabees in the quarters of Uday Hussein in the Al Faw palace complex in Baghdad, Iraq. Uday was the eldest son of Saddam Hussein and often gave these weapons, as well as gold-plated AK-47s, as gifts to his friends and acquaintances.

Naval Air Facility Baghdad Sign

National Naval Aviation Museum

Topped by handcrafted silhouettes of a palm tree and Iraqi-style rooftops, and featuring the insignias of Helicopter Combat Support Squadrons 4 and 5, this sign announced to visitors their arrival at Naval Air Facility Baghdad. It was posted near the squadrons' spaces during their service in Operation Iraqi Freedom in 2003 and 2004.

Kirby Morgan 37 (KM 37) Diving Helmet

U.S. Navy Seabee Museum

The Kirby Morgan 37 (KM 37) is a dive helmet used by the Seabees in underwater construction teams. The reinforced fiberglass and carbon fiber helmet provides a heat/cold barrier and incorporates a quad-valve exhaust system. This means less breathing resistance and a dry helmet interior.

Seabee divers have been a part of the Naval Construction Forces since World War II in conjunction with building advanced bases throughout the Pacific and Atlantic theaters. Early projects included underwater demolition of reef obstruction and in-shore construction to develop channels, harbors and mooring facilities for the fleet.

In the mid-1960s, renewed interest in ocean engineering and underwater construction revived the need for specially trained and experienced construction divers. Seabee divers became major contributors to the early success of the "Man-in-the-Sea" programs, including Sealab II and Tektite II undersea laboratories. As a result, the Chief of Naval Operations in 1970 authorized the formation of specially trained Seabee detachments for the purpose of construction and repair of underwater facilities.

Navy divers, Alan Dewitt, *left*, and Anthony Hanni, *right,* both wearing the Kirby Morgan 37 dive helmet, prepare to assist with raising a pier at the port of Umm Qasr, 2011. (DVIDS)

Bull Ensign Hard Hat and Boot Ensign Ceremonial Gear

U.S. Navy Seabee Museum

Among many U.S. Navy traditions are the bull and boot ensign. The bull ensign, or senior ensign, is charged with managing the wardroom and mentoring junior ensigns. The boot ensign, or least-experienced ensign, guards the "boot" to learn accountability, responsibility, how to delegate, and more by taking full responsibility of the boot and organizing all wardroom events. The ceremonial bull ensign safety hard hat with horns and boot ensign canvas suede boot filled with concrete, rebar, and a "40" BEEP sign was donated by Naval Mobile Construction Battalion 40 when they disestablished in 2012.

Captain Brad Johanson's Flight Suit

Puget Sound Navy Museum

This flight suit was worn by Captain Brad Johanson (1956–2010). Johanson joined the Navy in 1977 as an enlisted sailor, piloted A-6 and A-6F Intruder aircraft, and served as the commanding officer of the VS 29 "Dragonfires" antisubmarine warfare squadron. He completed his 30-year career as the commanding officer of the aircraft carrier USS *John C. Stennis* (CVN 74) from 2005 to 2008.

To become a naval aviator in the U.S. Navy, applicants must generally be between 19 and 32 years of age. The training process is rigorous and spans several years. Pilots are trained in a variety of challenging situations including mission planning, carrier landings, and flying in harsh weather.

John C. Stennis and other *Nimitz*–class aircraft carriers typically carry up to 70 aircraft. They are home to as many as nine or ten squadrons of various types of aircraft, which can include fighter jets, bombers, transport planes, reconnaissance aircraft, helicopters, and more. Collectively, these squadrons form a carrier air wing.

F-14 Tomcat

National Naval Aviation Museum

The F-14 Tomcat served as the Navy's primary air superiority fighter aircraft for more than a quarter century. It features a variable-sweep wing that automatically shifts in flight from 28 to 60 degrees for optimum performance at any speed. It is equipped with a weapon-control system that enabled the aircraft's crew to track 24 hostile targets and attack six targets simultaneously with AIM-54 Phoenix missiles.

By 1987, a total of 30 Navy fighter squadrons operated the F-14. The aircraft on display at the National Naval Aviation Museum is F-14D Tomcat, Bureau Number 161159, which logged 224 combat missions over Afghanistan and Iraq, including the 8 February 2006 flight from the carrier USS *Theodore Roosevelt* (CVN 71) that marked the last combat flight made by an F-14. The aircraft was forever memorialized into American pop culture due to a starring role in the 1986 blockbuster movie *Top Gun*.

Camp Knott T-Wall

U.S. Navy Seabee Museum

During Operation Iraqi Freedom, U.S. military forces began painting the concrete T-walls—named for their shape—protecting their camps in honor of their fallen comrades. This T-wall was located outside the entrance of the Seabee compound at Camp Fallujah, Iraq.

In August 2004, Naval Mobile Construction Battalion 4 deployed to Iraq and Kuwait in direct support of Operation Iraqi Freedom II. The primary task in Iraq included the construction of a combat operations center, force protection improvements, bridge repairs, and utility system repairs throughout North Babil Province, Iraq.

Indirect fire attacks were sporadic and frequent during the month of September. On 4 September, a rocket hit the equipment yard at the Seabee compound in Fallujah, Iraq, severely injuring three Seabees and taking the life of Steelworker Third Class Eric L. Knott. Following a memorial service held on September 12, the Seabee compound was dedicated as Camp Knott in his memory.

Glitter Desert Combat Boots

U.S. Navy Seabee Museum

This pair of desert combat boots covered with red glitter is labeled "No Place Like Home," referencing actress Judy Garland's memorable line from *The Wizard of Oz* film. While the movie with Garland was produced in 1939, her character's iconic words and glittering red shoes have not lost their meaning and continue to create that nostalgic feeling for home. A Seabee stationed in Gulfport, Mississippi, mailed these customized boots to a member of the 1st Naval Construction Regiment (NCR) just before they returned home from deployment in Afghanistan during Operation Enduring Freedom. The boots came with a note saying, "Get ready to click your heels because there's no place like home!" Seventy years after the movie was made, the 1st NCR donated these boots, made with glue and glitter in 2009 after the unit, which was set to rotate home, had their deployment extended and were sent from Iraq to Afghanistan when the front shifted.

Mine-Resistant Ambush-Protected Light Tactical Vehicle (MRAP)

U.S. Navy Seabee Museum

On 6 May 2013, four Seabees serving with Naval Mobile Construction Battalion 15 and using the call sign "Team 2 Husker," travelled north in this MRAP between Kandahar and Bagram, Afghanistan. On board were Steel Worker First Class Lucas Hopkins, Steel Worker Second Class John Tinsley, Steel Worker Constructionman Joshua Schlinz, and Builder Third Class Charles Casteel.

Team 2 Husker were providing security for a convoy of 52 individuals and 19 vehicles when the MRAP was attacked from the passenger side and an RPG hit the truck's rear right-side panel, missing Schlinz by only a foot. He took minimal shrapnel and light burns from the blast. Hopkins and Casteel were knocked unconscious momentarily and suffered concussions. Tinsley was knocked unconscious and suffered severe traumatic brain injury. Despite their injuries, the Seabees maintained maneuverability of the vehicle and made it to safety in Ghazni, where they received medical attention.

Until 2004, the U.S. Army held main responsibility for convoy security escort during Operation Iraqi Freedom. At that time, Seabees used the high-mobility multi-purpose wheeled vehicle, known as a HUMVEE, for troop transport, routine missions, and tactical convoys in Iraq. With more enemy attacks on motor convoys that year, the troops realized they needed stronger armor. The U.S. military replaced the HUMVEE with the MRAP. This vehicle protected troops from weapons, including improvised explosive devices (IEDs) during combat in Iraq and Afghanistan.

USS *Ponce* conducts an operational demonstration of LaWS while deployed to the Arabian Gulf. (U.S. Navy)

Laser Test Plate

USS Ponce

Central Artifact Collection
Curator Branch

For over 150 years, research and development is and continues to be a key factor in the Navy's success. Prior to the American Civil War, Lieutenant John A. Dahlgren established an experimental test battery at the Washington Navy Yard. With the development of larger-caliber guns, more space was required and, in 1918, the Naval Proving Ground in Dahlgren, Virgina, was established. This facility is now Naval Surface Warfare Center Dahlgren Division (NSWCDD), which focuses on the development and testing of weapons systems for the fleet.

This metal plate was used during the testing and development of the Navy's AN/SEQ-3 (XN-1) laser weapons system (LaWS). LaWS was installed and field tested on USS *Ponce* (AFSB[I] 15), an interim afloat forward staging base, in the fall of 2014 in the Arabian Gulf. During the field test, LaWS performed above expectations, operating in a variety of weather extremes, demonstrating the viability of this technology. In 2024, the Navy tested the high-energy laser with integrated optical-dazzler and surveillance (Helios) on USS *Preble* (DDG 88).

Blue Angels Flight Suit

National Naval Aviation Museum

In 2015, Captain Katie Higgins, USMC, became a Blue Angels pilot, flying the team's C-130J Hercules *Fat Albert* cargo aircraft. Featured here is the flight suit worn during her two seasons as a member of the U.S. Navy's flight demonstration team. The Blue Angels use a distinctive flight suit in color and style that is easily recognizable within the naval aviation community.

Capt. Katie Higgins, USMC, poses in front of *Fat Albert*, the Navy's Blue Angels' C-130J Super Hercules, prior to the 2016 MCAS Cherry Point Air Show in North Carolina. (DVIDS)

Model of USS *Thomas Hudner* (DDG 116)

U.S. Naval Academy Museum

Commissioned on 1 December 2018, USS *Thomas Hudner* (DDG 116) is part of the Navy's *Arleigh Burke*–class of guided missile destroyers. It was named for Captain Thomas Hudner Jr. As a lieutenant, Hudner was awarded the Medal of Honor for attempting to rescue his wingman, Ensign Jesse Brown, who was shot down during the Korean War by Chinese groundfire on 8 December 1950 during the Battle of the Chosin Reservoir. Ignoring his own safety, Hudner crash-landed his own aircraft nearby but was unable to save Brown.

On 8 October 2023, U.S. Secretary of Defense Lloyd Austin directed the aircraft carrier USS *Gerald R. Ford* (CVN 78) to the Eastern Mediterranean in response to the Hamas attack on Israel. *Thomas Hudner* was one of four destroyers in the carrier's strike group. On 15 November 2023, Thomas Hudner shot down a drone launched from Yemen that was headed toward it. Eight days later, the ship shot down multiple Yemeni attack drones. On 4 January 2024, it returned to its homeport, Naval Station Mayport, Florida, after an eight-month deployment. This model was scratch built by the Naval Academy Museum's ship model curator, Donald Preul, who invested more than 1,500 hours in its construction over a three-year period. Its scale is 1:192 (1/8 inch = 1 foot).

Heritage Desks

Central Artifact Collection
Curator Branch

In 2017, the Office of the Vice President of the United States requested that the Navy construct a desk from wood removed from USS *Constitution*. This heritage desk would serve the current and future Vice Presidents and provide a connection to one of the Navy's most historic ships. Douglas fir and copper hull sheathing used for the desk were removed from the ship during the 2015–17 dry-docking and restoration of *Constitution*. Navy Construction Battalion (Seabees) and active-duty *Constitution* sailors, while working with NHHC Detachment Boston, were tasked with the design and fabrication of the desk.

In 2020, Secretary of the Navy Kenneth Braithwaite requested a desk with a historic connection to the Navy for his office in the Pentagon. Several historic desks managed by NHHC were already on display or in use by other senior Navy and U.S. military leadership. Therefore, the Seabees, again with NHHC Detachment Boston, fabricated a desk for the Secretary from Douglas fir and copper hull sheathing removed from *Constitution.* This desk also includes: wood from one of the original six U.S. Navy frigates, *Chesapeake* (1799), and from the sloop-of-war *Constellation* (1854); metal from USS *Texas* (BB 35) and USS *New Jersey* (BB 62); and a relic from USS *Arizona* (BB 39).

Each of the two heritage desks are used respectively by the current Vice President of the United States and the Secretary of the Navy, providing inspiration and connection to the Navy's 250-year history and heritage, now and into the future.

UNITED STATES MARINE CORPS

Trident

USS *Whidbey Island* (LSD 41)

Central Artifact Collection
Curator Branch

Sailors from USS *George Washington* (CVN 73) participating in a crossing the line ceremony, December 2015. (DVIDS)

Crossing the line ceremonies are a maritime tradition that spans hundreds of years. Sailors who had not yet crossed the Equator are subpoenaed to present themselves before King Neptune and his court. Those who have not yet crossed the equator—"pollywogs," or "wogs"—are then asked questions and historically subjected to a variety of physical hazing situations to prove their worth.

Once approved by King Neptune, they are considered "trusty shellbacks." Though no longer mandatory or as physically abusive as early ceremonies of this kind, this tradition continues in the present-day U.S. Navy. The props and costumes used and worn by King Neptune and his court were traditionally fashioned out of anything the sailors could get their hands on, then typically discarded after the ceremony. Often this was due to the condition of the props after the event and the limited space on sailing vessels. This metal trident was used on USS *Whidbey Island* for their crossing the line ceremonies.

Chapter Frontispiece Image Credits

1. Anton Otto Fischer, *USS* Bon Homme Richard *vs. HMS* Serapis, c. 1779, oil painting, U.S. Navy Art Collection.

2. James Queen, *Capture of H. M. Ships* Cyane *and* Levant *by the U.S. Frigate Constitution,* c. 1840, lithograph, U.S. Navy Art Collection.

3. Wagner and McGuigan, *Departure of the USS* Columbus *and* Vincennes *from Jeddo Bay, July the 29th 1846,* c. 1920, lithograph, U.S. Navy Art Collection.

4. Crew of USS *Vermont* assemble on deck for a photo in Port Royal Harbor, South Carolina, c.1864. Naval History and Heritage Command.

5. USS *Connecticut* (Battleship No. 18) leading the Great White Fleet, c. 1907. Naval History and Heritage Command.

6. USS *Maine,* 1895–98. Naval History and Heritage Command.

7. Loading a Y-gun's projecting charge and setting the depth charge fuse aboard a U.S. Navy ship during World War I, c. 1917–18. Naval History and Heritage Command.

8. U.S. Navy battleships underway in formation in the 1930s. Naval History and Heritage Command.

9. Scene on board USS *Yorktown* (CV 5) during the Battle of Midway, 4 June 1942. Naval History and Heritage Command.

10. Launch of the Trident missile from submerged submarine, c. 1982. National Archives and Records Administration.

11. Inchon amphibious landings, September 1950. Naval History and Heritage Command.

12. An F-8 Crusader lands on board USS *Hancock* (CVA 19) while operating in the Gulf of Tonkin. National Archives and Records Administration.

13. This Medal of Honor, awarded to Capt. Jacklyn Harold "Jack" Lucas, a U.S. Marine who became the youngest recipient of the distinction at age 17 during World War II, is displayed aboard the ship that is his namesake, the *Arleigh Burke*–class guided-missile destroyer USS *Jack H. Lucas* (DDG 125). Defense Visual Information Distribution Service.

14. USS *Wisconsin* (BB 64) firing a broadside to port with its guns, circa 1988–91. U.S. Navy.

15. An F/A-18F Super Hornet aircraft attached to Strike Fighter Squadron 31, launches from the flight deck of the world's largest aircraft carrier, USS *Gerald R. Ford* (CVN 78), while supporting Operation Epic Fury, 28 February 2026. U.S. Navy.

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